Archive

The Subscription Magazine for Acorn Users

FEBRUARY '95

February 1995 Vol. 8 N° 5 £2.50

70+ CD-ROMs for Acorn Computers

Image Processing Terms

SCSI Card Compatibility – Update

Risc PC Screen Modes Made Easy

Spreadsheets Take to the Water

Text Import – 3

NCS Technical Services

Reviews: 10 out of 10 Driving Test, ArtPad, APDL Clip Art CD, Barcodes, BubbleHelp 2, Colourcard Gold, FIRST – Statistical Package, Lemmings & Oh No More Lemmings, Morph, Report Writer, RISC Disc CD, Times Tables, Wavelength

ncs

NORWICH COMPUTER SERVICES

Did I say, "All change at NCS"?!

When I said last month that things were changing, I totally underestimated the *rate* of change. Amanda has now left NCS to move back down to London and has taken up the post of Administrator to the British Humanists Society. She has been replaced by Andrew Herzig who joined us in December.

Finally (I hope!), Vera has got a job with the Education Department here in Norfolk, setting up an Open College Network – it sounds great – Congratulations! We wish both Vera and Amanda every success in the future and thank them for their contributions to the development of NCS and Archive magazine.

Help!!!!

As you can imagine, losing so many staff so rapidly means a lot of difficult adjustment. Sue Beverley (yes, we *are* related) has come in to help out but we are going to be hard-pressed, especially as Andrew is on his honeymoon(!) until 30th January. Whatever you do, please don't stop sending in orders!!! We would simply ask that you bear with us by (a) only ringing with **technical calls in the morning** and (b) being patient if your orders aren't serviced "in the manner to which you have become accustomed". Please exercise even more than usual of the "Archive spirit" – normal service will be resumed as soon as possible...

Your harassed editor...

Paul Beverley

Government Health Warning – Reading this could seriously affect your spiritual health.

"I'm not a Christian but I like your God Slot – you do have some quite sensible things to say... well, sometimes. But go to church? Me? No thanks! The only times I've been it's been quite deadly – a few old ladies in posh hats and a man up front wearing funny clothes and speaking with a very *funny voice. I hope he doesn't speak like that in normal conversation!*

"When you walk into the church, someone says 'Welcome' but then you see the 'I spy strangers!' look on the faces of the congregation and you begin to think that you've invaded an alien planet – and they obviously think the same.

"Then you play the 'sit-kneel-stand' game! You know – you're kneeling reverently with your eyes closed, you hear a rustle and you suddenly realise that everyone else is standing up – or, worse still, you're still standing up and they have all sat down! How do *they know what to do when? I think you have to be a member of the club. No thanks."*

I'm sure that many of you will recognise what my friend is saying – and it isn't, in my view, an unfair caricature – there *are* many churches like that and, yes, it *does* put people off. I would offer a Government Health Warning against such churches – they *could* seriously affect your spiritual health!

"OK then, so how do I find a church that is really alive and relevant to the 20th (and the 21st!) century?"

Well, there's no easy way to tell without going along to see for yourself. Mind you, one thing I would say is that there are now over 800 churches around the country running the Alpha course that I mentioned a few months ago and *that's* a good indication of life. If you want to know if there is one near you, ring 071-581-8255 and ask to speak to Phillipa, who is the Alpha Coordinator. (Or ring me and I'll find out for you.)

Why not go on an Alpha course? People are finding them *very* helpful. I'm so convinced that they could seriously affect your spiritual health (for the better!) that you can take this as a written guarantee. Go on an Alpha course and, if you feel that it's a waste of time, I'll give you a ***free life-time subscription*** to Archive!

Don't hang about though because most of the Alpha courses start mid-January. Ring Phillipa now on 071-581-8255 or if you live near Norwich, our Alpha course starts with a meal at 7.15 pm on Thursday, 19th January, in the Essex Rooms, Essex Street – just round the corner from Vauxhall Street! See you there? *P.B.*

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You can contact the Editor on email as:

Products Available

• **AI CD-ROM** – Release 3 of this CD (reviewed in Archive 7.5 p42) is now available from Lambda Publications. They offer an upgrade to existing users who return the release 2 disc and so they now have a small number of these release 2 discs available for £25 inclusive.

• **Basic AOF** – This application from Oregan Developments allows the built-in Basic assembler to export assembled code in a format suitable for linking with object files from the Acorn C compiler, and anything else supporting AOF. This costs £39.95 inclusive from Oregan or £38 through Archive.

• **Cannon Fodder** – New from Krisalis Software, this is a conversion from the Amiga game by Sensible Software. You control a group of infantry running around various second world war battlefields shooting the enemy, destroying supply depots and so on. The game has an ELSPA rating of 15+, and so is not suitable for young children. The price is £25.99 or £24 through Archive.

• **CD Server** from Digital Services allows CD-ROM drives to be shared across a network – each client appears to have its own drive connected. By cacheing data in memory, and on the host machines hard disc, high performance is achieved allowing multiple replay or MPEG sessions on the same network. IBM CDs are accessible as well as Acorn Format, even through the PC Emulator or a PC Card. The software is licensed by network, not station, but you will need to check that you are not breaking copyright on the CDs that you are sharing. The software is available for £199 +VAT, with 32-bit SCSI card and internal double speed CD-ROM drive for £599 +VAT. If you need an external CD-ROM drive, the price will be £699+VAT.

• **Complete Animator** – A new animation package from Iota Software aimed at all levels of experience, supplied with a 30 minute tutorial video as well. The many features include, sound, text, stamps, ghosting, rotoscoping, editing, backgrounds and flipbook printing are all built in. The cost is £99 + £3 p&p, inc VAT from Iota software or £98 through Archive.

• **Dune II** – The Battle for Arrakis has speech, artificial intelligence, 9Mb of compressed graphics, 30 battle zones and over 20Mb of source material compressed onto 7 floppies. It runs on RISC OS 2/3, is hard drive installable and needs 2Mb RAM. Dune II costs £34.99 from Eclipse or £33 through Archive.

Archive Monthly Program Disc Contents

- Tree menu application plus data from APDL CD review by Ted Lacey – page 68.
- Files from Gerald Fitton's Column – page 57.
- Latest version of James Riden's !GfxSquash application.
- CustomRPC and RPC keyboard applications + !Zap sent in by Jochen Konietzko – page 26.
- Non-letterbox AKF60 monitor definition file from Matthew Newton
- Prime Post puzzle solutions from Colin Singleton.
- Files from Keith Hodge's Risc PC Column – page 43.
- SCSI compatibility chart from Jim Nottingham – page 39.
- Sample spreadsheets from Richard Readings' article – page 73.
- Text import example from Jim Nottingham's article – page 15.
- Wolfenstein3D charts from Benjamin Newton.

• **Floopy** – This is a 40-screen game from Soft Rock Software costing, currently, £3.49, in which you must collect either ice creams, apples or workmen's helmets whilst avoiding various creatures. (A new version is planned which will make it Risc PC-compatible.)

• **Formulix** – Unfortunately, we got the price wrong for CC's Formulix package. What we gave you was the upgrade price from Equasor, i.e. £49 +VAT (only through CC). The full price is £69 +VAT from CC or £76 inclusive through Archive. (For those who bought Formulix from us at £55, we wouldn't ask for an extra payment as it was our own mistake but perhaps you might feel moved to make a donation to your favourite charity?)

• **Image Factory** – This Australian Company has produced a wide range of clipart in Artworks or Draw formats. Current collections are meadow (bee, crow, frog, ladybird, lily, mouse, rabbit and sitting rabbit, the Artworks version also includes the fox); Flight (Wright Brothers "Flyer", Sopwith Camel, Supermarine Spitfire, BAC VC10, Hawker Harrier, Westland Lynx, Concord, Shuttle Columbia); Big Cats (Black Panther, Cheetah, Leopard, Lion, Ocelot, Tiger); The Art of Walter Briggs (Dolphin, Falcon, Leopard, Beetle, Train, Cyborg, Linford Christie). They are available in the UK from Pineapple Software in Artworks format £10 each, £11 for The Art of Walter Briggs, Flight and Meadow are also available in draw format for £15 each. (All prices are inc VAT.)

• **Landmarks Microworlds: The War Years** – Set in the small village of Westerleigh, this educational package allows pupils to visit the village at various times between 1938 and 1945. Building interiors and objects can be examined and the inhabitants can be asked simple questions, so pupils can experience life as it was lived then. As well as the software, the package also includes a set of resources for use in the classroom. The price is £25.50 +VAT for single user, or £75.00 + VAT for a site licence from Longman Logotron.

• **Landmarks PinPoint Datafile: Looking at the World** – Data sheets for 195 countries covering population and environmental information are included in this data file. Birth rates and life expectancy statistics, land area, average rainfall, temperature, daylight hours and other climatic details are available. They are available from Longman Logotron for £14 + VAT for single user, or £36 +VAT for a site licence, but note that a copy of either PinPoint, or Junior Pinpoint is needed to use the files.

• **MathsGen** – Creative Curriculum Software have released an entry-level program for generating maths worksheets. Ideal for parents and teachers wishing to give children maths practice. Any number of worksheets and answer sheets can be designed, covering addition, subtraction, multiplication and division. Full presentation control is given, no typing or computation is needed. The price is £12.95 + VAT, orders placed at BETT '95 or before the end of January 1995 will qualify for the special launch price of £9.95 +VAT.

• **Maths Odyssey** – A mathematical adventure set in ancient Greece. The game involves finding mathematicians who will ask you mathematical questions, giving you tokens if you are successful. If you complete the adventure, you will be admitted to the brotherhood of mathematicians. The cost is £42 +VAT from Computer Tutorial Services Ltd.

• **MultiGen** – The high band Genlock adaptor from Sonamara Computer Video has dropped in price to £399.95 including VAT. It supports resolutions of up to 640×480 in up to 256,000 colours, with simultaneous RGB, S-video and composite video outputs and S-video and composite video inputs. Features of the external unit include under/overscan options, freeze frame, fade, computer to video, genlock, overlay, mix and it supports both PAL and NTSC. All leads are included for connections between the unit, the computer, monitor and video. Until Easter '95, the MultiGen/Titler bundle will still be available at £428.87 inc. VAT from Sonamara.

• **Musketeer Pack** – A complete desktop solution, the Musketeer Pack contains the full versions of the Schema 2 spreadsheet, Impression Style WP/DTP package and the DataPower database package, all for £249 +VAT from Iota Software, or £199 +VAT as an upgrade from Acorn Advance.

• **Nucleus** – A high performance fileserver from Digital Services. Rather than running over ADFS,

the server has its own filing system which provides better facilities for fileservers, allowing larger hard discs (up to 16Gb) larger directories and larger files, as well as improved space accounting. Additional file attributes allow files to have the execute-only bit set so that applications can be run, but not copied, deleted or moved. Shared writable areas are also possible so a file or directory can be made available to any other group of users. Workgrouping allows clients to establish shared areas without the need for system manager interaction. Cacheing increases the speed (up to 6 times faster than Level 4), and the multi-threaded design means simultaneous requests are handled quickly. Users details can be updated individually or in batch mode to change space allocations, privileges etc. Prices start from £199 + VAT for a 10 station licence from Digital Services.

• **Otteryl** – This is Cherisha's Software's statistics-based program for the National Lottery. They offer "no guarantee that your success rate... ...will be increased" but they claim that it will lessen the likelihood of picking numbers that are rarely or frequently chosen and avoid those common patterns that hundreds of other people may also have chosen thus lowering your winnings, should you win. Otteryl costs £3 inclusive from Cherisha Software.

• **Pineapple Software** – The Canon IX4015 24-bit scanner is now also available from Pineapple Software. It comes complete with David Pilling's Twain and Imagemaster package. Support for the scanner will also be built into Pineapple's retouching software Studio 24. The pack is £599 + VAT, or you can include Studio 24 for an additional £80 +VAT. (You will require a SCSI card to use the scanner.)

• **Reptile** – This is an application from Kudlian Soft, aimed at education, that allows the user to create and manipulate tiles based on either square, triangle or hexagon, using draw-objects to give high quality printouts. It costs £30 +VAT from Kudlian Soft (including a primary school site licence) or £60 +VAT for a secondary school licence. (£33 and £66 through Archive.)

• **Revolution Quad Speed** – a new version of the Morley Revolution Pro Caddy CD-ROM systems has been released, with a quad speed drive mechanism (around 600Kb/s), for connection to a SCSI card. The internal Risc PC version is £349 +VAT +carriage, (£405 inclusive through Archive) and the external version is £399 +VAT +carriage (£470 through Archive).

At the same time, they have reduced the price of the Revolution dual speed drives to £189 +VAT + carriage. (£230 inclusive through Archive.)

• **Sleuth 2 OCR** – a professional version of Sleuth OCR with improved accuracy (over 99% with good quality images) and support for more typefaces – normal, bold, italic and bold italic weights of virtually all popular typefaces are supported. The converted text can be exported as ASCII or Rich Text Format. Multi-column text and graphics are handled, by converting the text in a sensible order and ignoring graphics. Alternatively, the order of zones can be set manually. 'Guided editing' highlights the likely mistakes in the converted text. The images can be scanned directly from a Twain scanner. Upgrades from the original version are available for £49 +VAT through Beebug, and the full package is available for £99 +VAT (£110 through Archive). The original version is still available for £59 +VAT (£65 through Archive). *(The pricing in the review last month was completely wrong. Sorry!)*

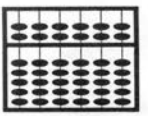
• **Soft Rock Software** – Currently, there are two special offers of Soft Rock Software packages. Offer one contains the five budget games Escape from Exeria, Guardians of the Lanyrinth, Drop Rock, Switch and Floopy along with Trellis (the Adventure Interpreter) in a bundle for £19.99, a saving of over £5. Offer two is for Risc PC owners and comprises the above package squashed onto two discs, for £13.99. These offers are only available directly from Soft Rock Software.

Review software received...

We have received review copies of the following: •BasicAOF (u), •Floopy (g), •MouseTrap (u), •Otteryl (u/g?), •RepTile (e).

e=Education, g=Game, u=Utility.

Not a lot for review at the moment but we have a huge number of reviews done and waiting for magazine space *– see page 78 for a list.* A



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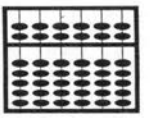
29 Okus Grove, Upper Stratton, Swindon, Wiltshire, SN2 6QA.
Fax–Phone: +44 (0) 1793 723347



The PipeLine, ZLine & ILine User Groups

PipeLine is our oldest User Group. It was founded in June 1990 for users of PipeDream and is still growing. ZLine, founded in March 1993 for users of Fireworkz, has been a great success. ILine is our newest User Group for users of Style and Publisher (but, because ImpDoc format files are not backward compatible, we can't offer this service to users of Impression Junior or Impression II). At present we have only 100 ILine members—but the number grows daily!

The Technical Help Service

Perhaps the most important benefit to members is the postal technical help service which we run. Because I have a 'day job' we can't run a 'phone service. Here's how it works. Send a disc copy of your problem explaining what it is that you want to do together with example files if that seems appropriate. We'll try to solve your problem using your data and template and send the disc back to you. Even if we can't solve the problem ourselves then maybe we know someone who can. At least, by belonging to the User Group, you won't feel that you're on your own with your problem!

If your problem and its solution is one we think will be of general interest then it will appear on one of the quarterly discs which we send out to members. You'll receive a free copy of the disc on which it appears—or a refund if you've paid in advance. In addition to articles based on members' problems we have a few members who contribute regularly—they get their membership for free!

The Quarterly Discs

Each User Group member receives four discs a year. PipeLine discs are issued in February, May, August and November; ZLine discs in March, June, September and December; ILine discs in January, April, July and October. The first ILine disc is the January 1995 disc. You can belong to more than one User Group; many of our members now belong to all three.

In addition to our postal technical help service, the User Groups are a forum for those who want to share their knowledge, improve their techniques and discover how best to approach more difficult projects! We encourage members to write to us with applications, ideas and problems. They send us examples, hints & tips and other suggestions. From the beginning we decided that the quarterly discs should contain more than applications of the packages they support. Contributions we receive from members include articles about the general use of the Archimedes, the use of other packages we all have in common (such as !Printers, !Paint, !Edit, etc) and about items of general interest (such as hardware and software upgrades, file formats for import and export, fonts, etc) and we include an occasional review. This aspect of the quarterly discs is well received and well supported.

The price of membership to any ***one*** User Group is £22.00 if you live in the European Community or £24.00 if you live anywhere else in the world—***but as a special introductory offer***

You can buy an annual subscription to any one User Group for
£18.00 if you live in the European Community
or £20.00 if you live anywhere else in the world
There are no hidden extras – Our prices include postage
If you're interested in joining more than one User Group
then ask us about the price of a joint subscription
Gerald L Fitton

BLINDS

Blinds is a revolutionary and sophisticated 'Pinboard' type application which has been developed to help make life a lot more effortlessly when using your computer.

Professional users demand that a program must be easy to use, but with the necessary **power** to make their life easier and more productive. We believe we have achieved this goal with *Blinds*.

- With *Blinds* you can make windows (or blinds) any shape, size and position them exactly where they will appear every time.
- Group your applications, letters, files, directory icons, etc. onto blinds which open and close at the click of a mouse button, therefore taking up virtually **no** valuable desktop space.
- You can give these icons long meaningful names, like "Letter from my Bank Manager"!
- Change the icon displayed by choosing from over one thousand icons provided.

- Set the blinds to open automatically whenever your favourite application is loaded. You'll probably never have to look for that elusive file again!
- Make a blind which will attach itself to your favourite application, it will then follow your applications window around the desktop just like it was made for it!
- And of course if you own our other popular product, *Keystroke*, you'll find that *Blinds* is fully integrated with it and you can make your own buttonbar for any application.

For an introductory period *Blinds* will only cost £19.95 fully inclusive of postage, etc. No V.A.T. and it is available from all good Acorn software dealers including Norwich Computer Services. Site Licences are available and educational orders are welcome.

Please note that *Blinds* requires any Acorn Risc computer running Risc OS 3.10 or better. Quantum Software has been established since 1992 and are Acorn registered developers.

A demonstration disc is also available free of charge from us on receipt of a S.A.E.

REGISTERED DEVELOPER

Or if you prefer you can order directly from us, Quantum Software, at :
35 Pinewood Park, Livingston, EH54 8NN, Scotland. Tel : 01506 - 411162

CD-ROM Products Available

Vera Cooke

Before Vera left NCS, she prepared this survey of products for CD-ROM owners. All the CD-ROMs and electronic books are available through Archive as indicated in each entry. The information is divided into two sections, true CD-ROMs and electronic books which need special software (called PaperOut) to read them.

Electronic Books

These are CD-ROM discs which contain information held as text, graphics and sound in a format developed for the Sony Data Discman. EBs can contain up to 100,000 pages of text or 32,000 images or 5 hours of audio. EB CDs are 8cm in diameter and can be used in both drawer and caddy (using a 5¼" adaptor ring) loading CD-ROM drives. All current Cumana CD-ROM drives may be used (except autochanger drives), along with the earlier Cumana 500 series and Acorn's MEU.

• **PaperOut** enables EBs to be used on Acorn (RISC OS) compatible computers. The package offers all the facilities that would normally be available if the disc was used on a Discman, plus the exporting of text and graphics to other applications such as word processors. RRP £49.95 +VAT, Archive price £57.

• **Adaptor ring** for using EBs with a CD caddy. RRP £2.99 +VAT, Archive price £4.

• **Concise Oxford Dictionary and Thesaurus** – Comprehensive guide to the English language: most authoritative English dictionary combined with a complete and systematic thesaurus, offering instant access with over 150,000 electronic cross-references. RRP £29.99 +VAT, Archive price £34.

• **Hutchinson Guide to the World** – Contains over 5,500 entries and over 500 maps, providing geographic, economic and up-to-date political information on places all over the world, accompanied by entertaining and informative quotations about places from famous explorers, poets, writers and scientists. RRP £29.99 +VAT, Archive price £34.

• **Chambers Science and Technology Library** – Over 13,000 electronic cross-references to three other Chambers reference books. 45,000 definitions and 650 articles. RRP £29.99 +VAT, Archive price £34.

• **The Earth Guide: An Environmental Handbook** – Drawing on the database of the World Resources Institute, this disc gives environmental information from countries around the world, together with contacts for organisations and guidance for 'green' business. RRP £29.99 +VAT, Archive price £34. When purchased with PaperOut, RRP is £74.95 +VAT, Archive price £86.

• **Listen and Read** *(Pocket Information)* – simplified stories, to help children learn to read. RRP for each volume £39.99 +VAT, Archive price £45.

Volume 1 – John Wyndham, Jane Austen, Kipling and others
Volume 2 – John Buchan, Arthur Conan Doyle and Charlotte Bronte
Volume 3 – Bram Stoker, Jack London, Thomas Hardy
Volume 4 – John Wyndham and Jane Austen
Volume 5 – Charles Dickens and Raymond Chandler

• **Collins Gem Electronic Food File** *(Collins/SEPC)* – from five Collins Gem guides, it contains calorific and nutritional information on thousands of foods, an encyclopaedic listing of natural and artificial food additives, plus guides to freezing and microwaving food. RRP £29.99 +VAT, Archive price £34.

• **CIA World Fact Book** *(Quanta Press)* – produced each year by the Central Intelligence Agency, this world almanac contains detailed social, economic, geographic and political units worldwide. RRP £29.99 +VAT, Archive price £34.

• **Hutchinson Gallup Info** *(Helicon)* – With over 700,000 words, hundreds of illustrations, charts and tables, this is a comprehensive collections of facts in over forty topics in the following sections: technology, business, arts, fashion, sport, famous people. RRP £29.99 +VAT, Archive price £34.

CD-ROM Titles

Some CD-ROMs may require a site licence for use on a network for which you may be charged extra.

• **19th Century Biographies** *(Anglia Television)* – Over 250 biographies of scientists, politicians, writers, artists and a few less reputable characters from the 19th Century. Includes photographs from the world-renowned Hulton Deutsch Collection. Requires KeyNote 2.0 software. RRP £25 +VAT, Archive price £28.

• **Acorn Replay Videoclip: Collection One** *(Acorn Computers)* – A collection of Acorn Replay movies and seven classical audio sequences. Contains an interactive introduction to RISC OS 3 and demonstrations of other RISC OS software. RRP £10 +VAT, Archive price £11.

• **Art in the National Curriculum – KS 1 & 2** *(AVP)* – Reference collection providing resources relating to topics and artists in the National Curriculum. Particularly concentrates on images which are not readily available in school or home environment. Topics include: traditional costumes, animals and plants in different time and culture, the human face painted by artists through the ages. RRP £75 +VAT, Archive price £86.

• **ArtWorks CD** *(Computer Concepts)* – Contains the ArtWorks software plus all the clipart from the Clipart CD and all the ArtWorks fonts. RRP £169 +VAT, Archive price £180.

• **ArtWorks ClipArt CDs 1 & 2** *(Computer Concepts)* – Each ClipArt CD (No.1 for 1993 and No.2 for 1994) contains an ArtWorks file viewer and at least 650 ArtWorks example pictures and high quality 24bpp photographs. ClipArt No.2 includes over 100 photos, taken by professionals, of subjects such as abstract images, scenery, etc. RRP £19 +VAT each, Archive price £21 each.

• **Aspects of Religion** *(Interactive Learning Productions)* – Considers the beliefs, forms of worship, scriptures, artefacts, festivals, people, religious communities and places of worship of each religion. Section 1: Contemporary Issues – core religious beliefs and ethics are described and explained in the context of modern living and pressing global events. Designed to encourage debate. Section 2: Personal View – brings to life beliefs and practices of the world's faith through a series of interviews. A resource for Religious Education GCSE and A Level, General Studies and Modern Studies. RRP £130 +VAT, Archive price £149.

• **Bitfolio 6** *(Management Graphics Ltd)* – 2,000 images in 25 categories providing support for specific UK-related subject areas. Full colour images are drawn rather than scanned so they can be ungrouped and edited easily, and enlarged or reduced without pixelation. Clipart categories include Anatomy, Borders and Backgrounds, Communications, Defence, Education, Food and Drink, Maps and Flags of the World, Nature and Transport. RRP £49.95 +VAT, Archive price £56.

• **British Birds** *(ILP and British Library)* – Produced in association with RSPB and British Library, contains hundreds of full colour images of British birds. Includes motion video (Acorn Replay), bird calls and songs, hypertext, a map facility for analysis of geographical factors, a quiz to test your knowledge and materials relating to the National Curriculum. RRP £150 +VAT, Archive price £173.

• **Cars – Maths in Motion** (*Cambridgeshire Software House)* – Cross-curricular simulations which can be used at Key Stages 2, 3 and 4. Subjects covered include language, science, geography, design, technology, maths, art and life skills. The program is accompanied by resource files which include worksheets, crossword puzzles, word searches, anagrams, track plans and teacher support material. There are several features on the disc, one of which allows you to design and race around a Grand Prix circuit. RRP £49.95 +VAT, Archive price £56.

• **Castles** (*Anglia Television)* – Resource for history curriculum on both primary and secondary education. Focusing mainly on medieval castles all over Britain plus vector graphics, video clips and animations. This disc is self-contained and does not require any Key product. 4Mb RAM required. When used with the Key Plus database system (see entry below) extra map facilities are accessible. RRP £40 +VAT, Archive price £45.

• **CD Français** *(ILP)* – Self-contained resource of 60 activities using spoken French, selected from Tricolore 4A and 4B. Disc is accompanied by

teacher's notes and photocopiable worksheets. RRP £95 +VAT, Archive price £109.

• **Changing Times** (*News Multimedia International)* – 15,000 articles and 1,000 pictures taken from the Times newspaper over its 200 year history. Original reports on major events in world history include the French Revolution, American Civil War and World Wars 1 and 2. More general themes such as Trade and Industry, Technology and Women's Rights are also covered. RRP £125 +VAT, Archive price £143.

• **Chemistry Set** *(New Media)* – Interactive library and encyclopedia of chemical experiments, molecular structures and information. Focuses on KS 3 and 4 of New Attainment Target 3 and the bio-molecular aspects of the NAT2. Access to over 350 video sequences of key chemical experiments and processes; database of 500 compounds; over 400 full motion 3-D molecular structure; 1,000 text items. RRP £149.95 +VAT, Archive price £173.

• **Counties of the British Isles** *(Anglia TV)* – Allows students to create detailed maps, supplied by Bartholemew, of the counties and regions of Britain. The level of detail shown on each map can be controlled by students as individual features can be switched on or off. The results of students's work can be exported into their own work area on the computers. Requires KeyNote 2.0 or some other Key product. RRP £40 +VAT, Archive price £45.

• **Countries of the World** *(Anglia TV)* – 74 interactive maps in Key Plus map format which enables students to use the latest type of vector mapping. Each map comes with a range of material and a legend which allows map features to be turned on or off, e.g. road contours and national boundaries. Maps can be printed out. Also contains a sample file of over 70 photographs from all over the world. The information can also be used in conjunction with Key Plus and Key Note datafiles. Requires KeyNote 2.0 software or some other Key product. RRP £40 +VAT, Archive price £45.

• **Creepy Crawlies** *(Media Design Interactive)* – Spiders, beetles and bugs can be studied using text, narrative, still photos and moving images. Family trees and guided tours are also featured. Not Risc PC compatible. RRP £49 +VAT, Archive price £56.

• **Dictionary of the Living World** *(MDI)* – Database of life on Earth containing around 3,000 text articles supplemented with over 1,000 colour and black and white pictures and 100 animal sounds animations which illustrate various biological processes. Not Risc PC compatible. RRP £49 inc VAT, Archive price £47.

• **Directions 2000: French** *(ILP and Academy Television)* – Aimed at 11+ age group and includes more than 2 hours of spoken language supported by thousands of coloured images and graphics. Curriculum notes and worksheets are included to aid lesson preparation. For use at Language Key Stages 3 and 4. RRP £140 +VAT, Archive £160.

• **ECCTIS** (subscription) *(ECCTIS 2000)* – Information on about 100,000 education and training courses at universities and colleges of further and higher education in the UK. Users answer a set of questions to identify the type of course required and the database then displays details of those courses which match the specifications. All necessary details about each course are given, including entry requirements, course structure and contact plus address and telephone number of the establishment offering the course. RRP £180 +VAT, Archive price £207.

• **En Marcha: Spanish** *(ILP and Academy Television)* – Details as for **Directions 2000: French** (see above). For use at Language Key Stages 3 and 4. RRP £140 +VAT, Archive price £160.

• **En Route: French** *(ILP and Academy TV)* – Designed to complement the highly successful multimedia course Route Nationale, En Route, but can be used alongside any beginners' French material. Authentic materials and wide choice of activities. Ten chapters, concentrating on topics such as pets, food and mealtimes, town and directions, time, transport, weather and holidays. Integrated assessment which includes video and audio. RRP £140 +VAT, Archive price £160.

• **Environment Series 1: Water** *(ILP and Academy Television)* – A highly interactive CD-ROM guide to all aspects concerning the environment and water. Includes 17 detailed case studies, 1,000 images with maps, audio, text and extensive film footage supplied by Yorkshire TV. Students can investigate water usage and its implications through-

out history and look at case studies of environmental issues such as dolphins, fishing and Thames Barrier. RRP £130 +VAT, Archive price £149.

• **Environment Series 2: Land and Air** *(ILP and Academy Television)* – In-depth analysis of global environmental issues using information drawn from experts in industry and government, and covering topics such as natural disasters, climate change, air quality, food or famine, depletion of natural resources, conservation, etc. RRP £130 +VAT, Archive price £149.

• **Flying Boot CD-ROM: Max and the Machines** *(ILP)* – Max and the Machines is the first of a series based on Nelson's Flying Boot reading scheme. Supports early reading skills and provides an excellent introduction to the IT skills necessary to use interactive media. Can be used individually or with groups/whole class. For the primary age range. RRP £70 +VAT, Archive price £80.

• **Frontier 2000** *(Cambridgeshire Software House)* – A computer-based simulation covering the history of the Border region from 43AD to 1991. Specific areas of study include Hadrian's Wall, map reading, and the Civil War. The disc contains text, maps, photographs, audio and Replay sequences and is supported by a resource pack that includes a video, an audio cassette, colour brochures, curriculum guide material and even a genuine piece of Roman timber! CD version has many extras over the disc-based software – timeline is 35,000 words long, several Replay files and over 100 historic photographs, etc. RRP for CD, manual and resource pack £109.95 +VAT, Archive price £126. RRP for CD and manual only £79.95 +VAT, Archive price £92.

• **Garden Wildlife** *(Anglia Television)* – Resource for Primary science education. Focusing on familiar creatures and locations, it makes the link between the school field, garden local park and understanding the creatures that live there, with close-up photography and video clips from Anglia's 'Survival' cameras. This disc is self-contained and does not require any Key product. 4Mb RAM required. RRP £40 +VAT, Archive price £45.

• **Goldilocks** *(Leeds EdIT Centre)* – Bright and cheerful version of the well-known children's story and includes tasks and interactive activities. Accompanied by graphics, text, sound and worksheets. RRP £39.95 +VAT, Archive price £45.

• **Granny's Garden** *(Cumana)* – Produced by 4Mation, this old favourite is now offered with Acorn Replay and all the magic of modern technology: enhanced audio, animations and graphics. Interactive adventure for children of varying ages. RRP £29.95 +VAT, Archive price £34. Resource Pack RRP £15 +VAT, Archive price £16.

• **Horizon Project** *(Hampshire Microtechnology Centre)* – These resources are a result of a project involving over forty Hampshire schools and colleges who examined the use of multimedia for sharing and presenting information. Their findings were used to present their work to other students and cover a range of topics, including "IT in the High Street", "Rainforests" and "Hitler". The disc represents an example of children being able to learn from other children and their experiences. RRP £19.95 +VAT, Archive price £22.

• **Hutchinson Multimedia Encyclopedia 1992** *(Attica Cybernetics)* – Updated multimedia version of the book, containing sound, pictures and text. 27,000 text articles, 2,500 photos, illustrations and maps; over 8,000 hyperlinks and over 250 sound recordings. Users can browse through the contents or select a particular subject from the index. A simpler way of accessing a topic is to enter a keyword and the retrieval software will do the search for you. RRP £49.95 +VAT, Archive price £56.

• **Illustrated Holy Bible** *(Animated Pixels)* – Complete text of the King James Bible together with over 100 illustrations. Facilities include full word search, picture slide-show and bookmark options. RRP £23 +VAT, Archive price £26.

• **Illustrated Works of Shakespeare** *(Animated Pixels)* – All of Shakespeare's plays, poems and sonnets. Instant searches can be made on the entire text using simple search facilities. Features include illustrations for major scenes and a bookmark facility. RRP £23 +VAT, Archive price £26.

• **Image Warehouse** *(Media Design Interactive)* – Clipart disc of over 350 high-quality images, saved as RISC OS sprites. They are compatible with most DTP packages. Not Risc PC compatible. RRP £39.99 inc VAT, Archive price £38.

• **Introduction to the Environment** *(ILP)* – Three packages introducing specific environmental issues. Each is supported by a 28-page photocopiable booklet that include practical activities, ideas for project work and assessment sheets. RRP £35 +VAT each, Archive price £40 each:

Pack 1: Dwindling Resources – How key natural resources of water, forests, oil and coal have been used over the last 200 years and the effect this has had on the environment.

Pack 2: Climate Change – Explore the facts and theories of global warming and climatic change.

Pack 3: Conservation – Case studies of world famous national parks, used to illustrate the benefits and difficulties of conserving wilderness, wild areas and threatened species.

• **Inventors and Inventions** *(ILP and Academy Television)* – 2,000 still and moving images helping you explore the history of inventors and inventions from the earliest time to the present day. Includes colour and mono images, animated drawings, audio commentary, video and sound effect for pupils studying history, science and technology. RRP £150 +VAT, Archive price £173.

• **Journeys into History** *(ILP and Academy Television)* – Covers a variety of topics included in Key Stages 2 and 3 of National Curriculum (History). Pupils explore Hadrian's Wall, hear about St Cuthbert's life, meet a Victorian family and investigate aspects of the Industrial Revolution. Features include notepad, interactive glossary, search save and print facilities, ideas section. RRP £99.99 +VAT, Archive price £114.

• **Karaoke Shakespeare** *(Animated Pixels)* – Choose a role from the play and whilst you read the lines from the screen, the other parts will be read for you. It can be used by a single person reading one part or by a number of people taking on each of the roles. RRP Macbeth and A Midsummer Night's Dream: £49 +VAT each, Archive price £56 each.

• **Key Plus** *(Anglia Television)* – Software required for use of some of Anglia TV's CD-ROM titles. RRP £60 +VAT, Archive price £68.

• **Kingfisher Children's Micropedia** *(ESM)* – Reference resource for primary-aged children. 1,300 entries which can be accessed via an A-Z finder or through topic groupings. All pictures and data can be printed out and the disc is accompanied by curriculum activity ideas. RRP £90 +VAT, Archive price £102.

• **Langdale Primary** *(Creative Curriculum Software)* – A study of the Langdale Valley area of the Lake District using OS maps, diagrams, aerial and ground photographs, statistics, charts and sound. Not only can users tread the paths and see the views, but they can also see behind the scenes using the resources and applications provided. RRP £99 +VAT, Archive price £114.

• **Living Poetry** *(Animated Pixels)* – Text of over 1,500 poems by 200 different poets, including Hardy, Keats, Milton and Wordsworth. 99 of the poems are accompanied by versions read by actors. Illustrations of the poems plus biographies of the poets are also included. RRP £49 +VAT, Archive price £56.

• **Map Skills** *(Pebbleshore Information Services)* – Complete pack to support the teaching of the main elements of the Map Skills part of National Curriculum Geography, Key Stages 1-3 and parts of the short course in geography at Key Stage 4. Topics include grid references and following a route on an OS map. As well as the disc, the package includes two OS maps (Plymouth and Telford), students's worksheet and teachers' notes. RRP £49.95 +VAT, Archive price £56.

• **Oxford Reading Tree Talking Stories** *(Sherston)* – Six interactive talking book stories from reading scheme for Key Stage 2 pupils. RRP £39.95 +VAT, Archive price £45.

• **Photobase: Decades (5 discs)** *(Longman Logotron)* – The 1960s, '50s, '40s, '30s and '20s. Each disc in the series contains almost 2,500 photographs from the famous Hulton Deutsch picture library. Databases have powerful searching facilities, including keyword indexing and free text searching. RRP £49 +VAT each, Archive price £55.

• **Photobase: Landscapes** *(Longman Logotron)* – Database of over 2,000 high quality colour photographs and images illustrating aspect of the natural and man-made environment. Topics include architecture, history, geography, science, technology and

nature, using images from around the globe. RRP £49 +VAT, Archive price £55.

• **Photobase: Science** *(Longman Logotron)* – Over 1,000 high-quality photographic illustrations selected to cover important topics in the National Curriculum for Science. Topics such as earth science, geology, human biology and native plants are covered. RRP £49 +VAT, Archive price £55.

• **Photobase: The Victorians** *(Longman Logotron)* – Nearly 2,500 photographs and engravings taken from the famous Hulton Deutsch picture library. Topics cover people's lives: great reformers of the time such as Lord Shaftesbury, events like The Great Exhibition, pictures of the Royal Family and Victoria herself. There are also many images reflecting the great industrial changes of the time, such as steam power and the growth of the railways, agriculture and mass production in factories and their impact on living and working conditions. RRP £49 +VAT, Archive price £55.

• **PhotoLib** *(Matt Black)* – A huge library of over 4,000 24-bit colour photographs on one CD. RRP £299 +VAT, Archive price £345.

• **Physical World** *(ILP)* – Understanding of the physical world, processes that have formed it and the ways in which people interact with their physical environment. Divided into three sections: Features and Processes (biosphere, hydrosphere and lithosphere), Natural Hazards, People and their Environment. RRP £130 +VAT, Archive price £148.

• **ProArtisan 2** *(Clares)* – Advanced image processing package which enables graphics to be altered or drawn from scratch (a library of images is included). Allows display and manipulation of Photo CD images and Cumana's Photo Album Volume 1 Photo CD (collection of 82 images) forms the second disc in this set. The pack also includes ProArtisan 2 on floppy disc for use independent of the CD drive. RRP £136 +VAT, Archive price £155.

• **Really Useful CD-ROM Volume 2** *(APA Multimedia Ltd)* – Contains over 1,000 colour and mono images such as animals, cars, boats, landscapes and scenery; high quality sound samples including a French revision section; dozens of games, utilities and mini-films; special needs facilities. (Supersedes the Really Useful CD-ROM volume 1). RRP £49 +VAT, Archive price £55.

• **Science Series 1: Elements** *(IPL and Academy Television)* – Interactive CD-ROM divided into two cross-referencable sections: the Periodic Tale and Atomic Structure of the elements. An introduction to the periodic table, atomic structure and radioactivity. Topics include the periodic table, groups and divisions, atoms and atom building, radioactive decay and isotopes. The disc uses video, animation and text in its explanations, plus interactive features such as an atom-builder (students construct their own atoms). Also includes a complete set of workcards and curriculum notes. RRP £130 +VAT, Archive price £148.

• **Science Series 2: Materials** *(IPL and Academy Television)* – Interactive database of 150 materials as diverse as toothpaste, iron and butter, giving insights into their occurrence, extraction, production, history, applications and composition. Features experiments, quizzes, colour images, audio, graphics and video clips. RRP £130 +VAT, Archive price £148.

• **Semerc Treasure Chest** *(NW Semerc)* – Includes thousands of pictures, symbols, sound samples and speech files which can easily be accessed and retrieved by learners (including special needs). Pictures and sound can easily be extracted for use in other applications. The sixty topic areas include vehicles, foods, animals, birds, Aztecs, Romans, Victorians and dinosaurs. RRP £69 +VAT, Archive price £78.

• **Sherlock Holmes on a disc** *(Animated Pixels)* – The complete text from all sixty detective stories, together with full colour illustrations and utilities, including a bookmark facility. RRP £23 +VAT, Archive price £25.

• **Sherston Naughty Stories** *(Sherston)* – Twelve stories, including Doris the Dotty Dog, Terry's Tricky Trainers, Bobby the Boastful Bird and Lucy the little Liar, for Key Stage 1 and 2. Each story comprises clearly displayed text which the user can choose to have read to them and animated illustrations with optional sound effects. This includes the individual story books that are supplied with each disc. RRP £79.95 +VAT, Archive price £91.

• **Space Encyclopedia** *(Animated Pixels)* – RISC OS CD-ROM disc on space, includes Acorn Replay. Fully indexed and easy retrieval. RRP £39 +VAT, Archive price £44.

• **SSERC Graphics Collection** *(Scottish Schools Equipment Research Centre)* – Science and technology graphics, data, programs and applications in abundance. 330Mb for use in chemistry, physics, biology, technology, computing and information technology. Graphics of 227 molecules, each in up to 18 different model representations and drawfiles of gears, sprockets, washers and tubes. File format includes drawfile, sprite and DXF file and the price includes a site licence. RRP £99 +VAT, Archive price £114.

• **Tekkie Disc** *(Emerald Publishing)* – Acorn's technical documentation on CD-ROM. RRP £99 +VAT, Archive price £108.

• **Times and the Sunday Times** *(News Multimedia International)* – Full text from each final edition of two of the most famous newspapers in the world. Articles are arranged in familiar sections such as home and foreign news, business, sport, etc and access is easy via a keyword-search facility. Information can be refined by setting a date range or by marking a selection. RRP £175 +VAT, Archive price £200.

• **Times and the Sunday Times** *(News Multimedia International)* – Individual, abridged editions covering January to December for the following years: 1990, 1991, 1992, 1993. RRP £89 +VAT, Archive price £100.

• **Times and the Sunday Times Sampler** *(News Multimedia International)* RRP £50 +VAT, Archive price £54.

• **Understanding the Body** *(Anglia Television)* – Resource for secondary science curriculum with over 500 pictures, 50 video clips, 150 graphics and thousands of pages of text: Introducing humans, Cells and tissues; Organs and organ systems, Reproduction and genetics. Worksheets for teachers and students are available on the disc and can be printed out. RRP £40 +VAT, Archive price £45.

• **Usborne's Exploring Nature** *(Hampshire Microtechnology Centre)* – Contains many drawings of flora and fauna, natural life processes, animal behaviour and key natural habitats. An activity-based exploration which will help children towards a greater understanding and appreciation of the plants and animals around them. A classroom and library resource for all primary and middle schools. RRP £125 +VAT, Archive price £142.

• **Woodland** *(APA Multimedia Ltd)* – Multimedia exploration of British woodland covering birds, trees, plants, animals, fungi and minibeasts. Key Stage 2 and above. RRP £75 +VAT, Archive price £85.

• **World of Number Series** *(Cumana)* – NCC approved CD-ROM series, published by New Media, to meet Mathematics Key Stage 3 and 4. Contains these four titles at RRP £79 +VAT each, Archive price £88 each:

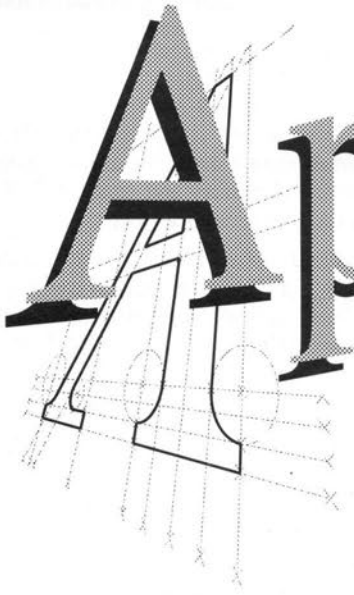
Number Games – Seven puzzles which must be solved by groups of students through discussion of calculation and reasoning. It tackles number patterns, symbolisation and a broad range of strategic skills required by the National Curriculum.

Perspectives – Four on-screen windows enable users to look at information from different perspectives in video, graphics and data. Curriculum support for graph sketching and interpretation by linking the abstract to reality also included.

Picture Gallery – Collection of photographs together with simple software drawing tools which support the curriculum areas of angle, ratios, scale, percentages and estimation.

Who stole the decimal point? – Adventure game in which a series of mathematical problems must be solved in order to complete the story. This module supports a wide range of attainment.

• **World War II (disc 1 and disc 2)** *(ILP and Academy Television)* – Disc 1 (Global Conflict) gives an overview of causes and significant events of the War using archive film footage from the National Archives of America, an index, glossary and hypertext links. Disc 2 (Sources and Analysis) contains source material resources, archive photos, newsreel and film footage personal diaries, pamphlets and case studies. RRP £130 +VAT each disc, Archive price £147 each disc. A



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Text Import – Part 3

Jim Nottingham

Firstly, my grateful thanks to those readers who took the trouble to respond to Part 1 (Archive 8.3 p63). In truth, I had feared it was over-detailed and merely covered old ground but, from the incidence of "well, I never knew that" comments, it appears I was on the right track after all. Please do keep those helpful comments coming.

In Part 2 (8.4 p43), we looked at the problems of filtering out unwanted line-feeds which, invariably, are embedded in and imported with so-called 'standard' ASCII text, whatever the source. In doing so, I am confident you will have become sufficiently familiar with the workings of Edit's Find and Replace function to be able to press on and deal with the majority of other problems you are likely to meet.

Processing compound problems

In principle, by applying exactly the same procedures we considered in Part 2, we can deal with imported documents with embedded control codes of increasing complexity. This includes even those which, at first impression, appear to be total scribble. However, the law of diminishing returns comes in here. By that I mean that, if you need to import perhaps only a couple of short paragraphs, it may prove easier and quicker just to strip out the offending codes using the delete key, repetitively, rather than go through some complex Find and Replace procedures. You will soon get used to which option to employ under given circumstances.

Before we consider another example in detail, there is an alternative Edit function we can introduce to do the same job as the Magic characters system but which is rather more user-friendly; this is the wildcard feature. To use it, click on the "Wildcarded expressions" radio button which will open up an alternative series of options (not available in the RISC OS 2 version of Edit; continue to use Magic characters – or upgrade to OS 3.10!).

The options look a little more complicated but, in practice, are easier to use than the magic character system. Single characters are used (e.g. $ represents a line-feed) and the character can be entered not only by typing it in as normal but also by simply clicking on the appropriate option box.

Now to look at a more complex example which is an amalgam of many real situations we may meet, including bits from those well-known foreigners Multimate, MS Word, Word-Perfect and Wordstar – plus a bit of my Magic Note in native text format thrown in for good measure. My aim in purposely making it such an eye-watering (but typical) sample is that, if we can hack this, we shall have gained the confidence to manipulate anything the foreigners can throw at us.

For this exercise, dig out Example2 from the monthly disc, or the examples disc available from me, and make a working copy (for the moment, don't change the filetype to Text). The actual text is almost the same as used in Example1. That was 1,250 bytes long but, as the file size has increased to almost 10Kb, clearly we have picked up lots of 'scribble' in the importing. For starters, drag the Example2 file onto your WP/DTP icon and – immediately – you will hit a major problem in that, in all probability, it won't load properly.

Publisher, for example, says the file is not understood and insults us by displaying a picture of a PC! Ovation is not as rude but fails to display any more than half a page of nonsense. This is a very common example of how embedded control codes can seriously interact with our system so, as a starter, convert the filetype to Text as described in Part 2.

To see the extent of the problem, discard the WP/DTP document and load Example2 into Edit. At first sight, we have simply imported pages of utter scribble which seems to be made up of thousands of numbers in square brackets (= hex) with the occasional alpha-numeric character embedded, e.g. "[01]ü[1a]". However, if you scroll to the bottom, you'll see what on a clear day just might be the text we are looking for. For those readers without the

examples disc, here is a very much cut down extract from the original file:

Pages of scribble followed by...

.....[00µ[00]}[00][00][00]´[00]Ð[00]Ð
[1d]These¹days,¹a¹fax¹facility¹is¹almost¹a¹™
necessity¹for¹running¹a¹business.¹¹When¹™
people¹asked¹for¹our¹fax¹number,¹they¹™
were¹most¹put¹out¹to¹find¹that¹we¹didn©t¹™
have¹one¹-¹so¹we¹invested¹in¹David¹™
Pilling©s¹ArcFax¹(¹†35)¹and¹bought¹™
ourselves¹a¹fax¹modem¹(¹†199.99).[0d]
[0d]
[1d]
[00][09]Ð[02]@[02]¹[05]
[00][1d]What¹is¹a¹computer¹fax?[0d]
[0d]
[1d]
[00][09]Ð[02]@[02]¹[05]
[00][1d]The¹computer¹prints¹by¹sending¹to¹™
the¹printer¹a¹graphic¹image¹of¹the¹page¹™
which¹is¹made¹up¹as¹a¹series¹of¹dots.¹¹™
Normally,¹an¹electronic¹representation¹™
of¹these¹dots¹is¹sent¹up¹the¹cable¹to¹the¹™
printer.¹¹The¹fax¹modem¹can¹be¹thought¹of¹™
as¹a¹©printer©¹which¹turns¹these¹dots¹™
into¹sounds¹which¹can¹be¹sent¹down¹the¹™
telephone¹line¹to¹a¹remote¹receiver.[1a]Ô[08]
3"[1d][00]Ñf[03][00][00][00]Ñ[01]#[00]
[01].....

General procedure

Clearly, Edit is going to have to work extra hard this time and you will have to deal with this in a very controlled fashion if you are not to lose sight of what you have done. So my recommendations for a general procedure are three-fold:

• Firstly, you should work in a logical, controlled fashion, dealing with the more obvious and common problem areas before trying to pin down relatively minor anomalies. Often there will be more than one path to take but try to work through the forest, to the copse, to the tree, to the branch and, finally, to the leaf.

• Secondly, whenever you complete a stage in the manipulation procedure, it is probably a good idea to drop an Edit save box onto the WP/DTP icon and assess progress. You should start to see useful results very quickly and this helps to give confidence and confirm that you are on the right path.

• Thirdly, assuming you are happy with the outcome of each stage, you could save the Edit file, preferably with a different filename. In this way, if you make a mess of things, you need go back only one step.

Tactics and techniques

Let's put the general procedures into practice. Firstly, we could quickly get rid of the thousands of control characters appearing before the text starts. This is very easy to do in Edit; simply select-drag to mark whole blocks from the top of the file and then delete them (<ctrl-X>). Continue for some pages until eventually you come to the start of the wanted text. Finally, select and delete the few lines of code characters after the text, in the same manner.

Drop an Edit save box onto your WP/DTP icon and the application should now accept and display the shortened file sensibly, so we are on the right path. Save the Edit file as an interim result and discard the WP/DTP document.

Looking at the result in the Edit window, it is now obvious that, throughout the text file, gaps between words are filled by a superscript 1 ("¹") where there should be spaces (exported from the Magic Note 'native' word-processor). Looking at the ASCII table included in Part 1, we find we can enter the "¹" character either by typing <alt-185> (using the numeric keypad) or by <alt-1> (main keyboard). So we can deal with the problem globally by using a straightforward Edit Find/Replace procedure:

Press <home> followed by <f4>
"Find:" Type in <alt-185><return>
"Replace with:" Press <space><return>
Click on "End of file replace" (249 replaced)
Click on "Stop" (or press <return>)

Once again, drop an Edit save box onto your WP/DTP icon and note that the result is now becoming fairly readable, although the formatting still needs work. Discard that document and save the interim Edit file.

Probably the next most common occurrence is the "™" character at the end of each line. This is an unusual feature, imported from Wordstar v3.3. The

characters are in fact carriage returns (CR) but most other packages export them as ASCII 13 control characters, as shown in the table. On screen, they would appear in the equivalent hex number format ([0d]). Not to worry about these differences, we can again perform an Edit global Find/Replace to strip out the carriage returns. In the example file, the "™" character is always preceded by a space so, in this instance, there is no need to replace it with another space. In the table, "™" is listed as the ASCII decimal number 141, so the procedure is:

Press <home> followed by <f4>
"Find:" Type <alt-141><return>
"Replace with:" Press <return> (i.e. 'nothing')
Click on "End of file replace" (28 replaced)
Click on "Stop" (or press <return>)

Viewing the result in our WP/DTP package window shows that the carriage return characters have gone from the 28 lines of text. Discard the document and save the Edit temporary file as usual.

We are still left with the (invisible) line-feeds which are stopping the text filling the full width of the window. However, unlike in Example1 where paragraph spacing was achieved by using double line-feeds, in Example2 it is brought about by line-feeds plus a unique string of 17 control characters ([0d]....[1d]). For this reason, it is unnecessary to use the 'dummy' procedure this time, so we can strip out the single line-feeds using a simplified procedure, noting that the Wildcarded expression for a line-feed ('Newline') is the $ character. We can either type this in or enter it by clicking on the "Newline" box. This time, we play safe and replace each (invisible) line-feed character with a space, so:

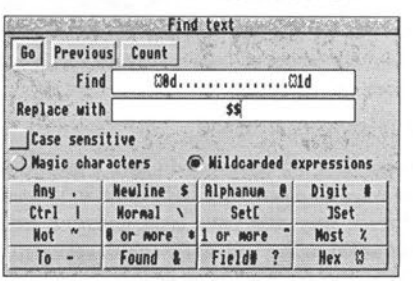
Press <home> followed by <f4>
"Find:" Click on "Newline" (or type in<$>)
"Replace with:" Press <space><return>
Click on "End of file replace" (48 replaced)
Click on "Stop" (or press <return>)

There were far more line-feed characters replaced (48) than carriage returns (28) because, this time, we have stripped out the LFs between paragraphs and either side of the heading.

Dropping an Edit save box on the WP/DTP package icon shows us that the individual paragraphs are now formatting properly, although we still need to sort out the paragraph spacing. This is slightly more tricky than usual because the 'foreign' package (Wordstar v6.0) has given us the rather unfriendly 17-character string to deal with.

This is an instance where, with only a few paragraphs to import, it would be appropriate simply to use the delete key. However, for the exercise (and bearing in mind it will work equally well for a 100-page document), we will do it the hard way! Fortunately, we don't need to type in the complete string of complex characters as we can use the Wildcarded expressions' "Any" function. In theory, as there are no other hex characters ([xx]) remaining in the file, we could simply type in, say, the first <[0d]> followed by 16 wildcards (full stops) to represent the full string. In this case, it is a unique solution and will work but, for other circumstances, we must ensure it is a unique occurrence and, if necessary, type in the full string as it stands.

For this exercise, we will use the start and end characters with 15 intermediate wildcard characters. To do this, we will enter the first and last hex numbers, separated by 15 full stops. The two hex numbers are entered in both cases by clicking on the Wildcarded expressions' "Hex" box, which puts a cross in the Find: dialogue box, before we type in the relevant hex number. We can enter the full stops either from the keyboard or by clicking 15 times on "Any". As a replacement for the string, we will want to enter a couple of line-feed characters to achieve the double-spacing between the paragraphs and either side of the heading. So, using the normal procedure and having entered or typed in the data, Edit's Find text window will look like this:



Pressing <return> and clicking on "End of file replace" gives us 5 replaced. Dropping the result onto our WP/DTP icon shows that we are virtually there, with just a few minor anomalies to deal with.

Odds and ends

Although it would be quite reasonable to edit out the remaining anomalies manually, we may as well complete the exercise using Edit as a general procedure:

• Looking at the WP/DTP window and working from the top, it seems that apostrophes have become copyright signs ("©"), so this is easily dealt with by performing an Edit global Find/Replace procedure. From the table, © appears against ASCII decimal number 169, so we type <alt-169><return> in the Find: dialogue box and < ' ><return> in the Replace with: box (4 replaced).

• At the end of the first paragraph there should be a couple of "†" signs (ASCII decimal number 156), each preceded by a space. From the context, these appear to be corrupted "£" signs, a very common importing problem. In this case, replacing <space> <alt-156> with <£> will clear the problem (2 replaced). I say there *should* be † signs but, if you are displaying the System font in the Edit window, they will show as superscript 6 figures ("6"). This is because, as described in Part 1, the System font does not always reproduce the standard Latin1 alphabet characters in the ASCII range 128-159. So, as mentioned in Part 2, I recommend you always switch to a suitable outline font such as Homerton for display in the Edit window.

• Inspection of the (almost) finished result shows that a number of double-spaces have appeared between words. Their regularity gives the clue that this had happened where once there were line-feeds indicating that, in this instance, it was inappropriate to have replaced line-feeds with spaces. It's too late to go back on that but – no problem – we can do a global replacement of <space><space> with a single <space> (32 replaced).

The finished result (at last!)

So what have we achieved? In fact, a great deal (in more ways than one). We have taken an unseen text file which may well have been imported from an unidentified source and, at first sight, appeared to be scribble. But we have progressively massaged it to the point that it has become 100% readable by our word-processor or DTP package, which is just what we set out to do.

To achieve this, we didn't need to have any knowledge of the source application, software version number or host system, nor any technical expertise. We just needed to have a modicum of familiarity with the way Edit's Find/Replace function is handled.

We have done this without any direct expense because the only tool we used – Edit – came 'free' with our computer.

As I said – a *great* deal... Thanks Acorn, what would we do without you?

Read, learn and practise...

Don't worry if you found working through this complex example hard going, the learning curve is very steep. I suggest you go through it at least a couple more times for consolidation and then you should find it will take you only a few minutes to convert almost any other imported file so that it is fully readable by your WP/DTP package.

"Almost any"? Well, in practice, I haven't actually come across any imported file which I haven't managed to get Edit to convert successfully, given enough time and application. That said, I have to say that, in order to meet a very tight timescale, I once had no option but to massage a 50-page PostScript file. The finished result was testimony to Edit's productivity but, my word, doing it destroyed any hope of slowing the pace of my near-terminal baldness. Incidentally, does anyone know of a PostScript reader for Acorn machines?

In these articles, I cannot hope to have covered all possible situations you might meet, or every nuance of Edit's Find/Replace facilities. If you would like to take things further, I recommend you read the notes on Wildcarded expressions in the manual, especially the examples on p14 of the RISC OS 3 Applications Guide or p260 of the Risc PC User Guide.

For practice, the disc of example files is still available from me for the price of a formatted disc, a self-addressed label and return postage. Finally, if you hit problems, do not hesitate to ask for help. Ideally, send me an example on disc with details of where you are getting stuck.

Happy text-importing! Jim Nottingham, 16 Westfield Close, Pocklington, York, YO4 2EY. A

Eagle M2 — *soaring* to great heights

Eagle is the new do-it-all multimedia system for Acorn computers. It can handle a wide range of data types, combining the ability to capture sounds, still pictures and movies. The advanced hardware is accompanied by some of the best software available for manipulating data from all of these sources.

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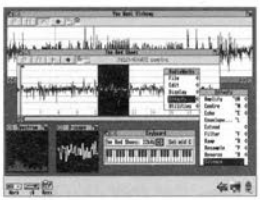

"This superb interactive sound and vision card has set a new standard for others to chase... an essential creative powerhouse for the artistically inclined... it looks set to be one of the highlights of the year". **Acorn User.**

"Results obtained with it are superb... Eagle does so much, so well, for such a modest outlay that it will take some beating. In short, Eagle comes highly recommended". **Archimedes World.**

Price: £329 + £6 carriage + VAT (£386.57) including the Eidos software.

Consists of one standard size expansion card, suitable for all machines that accept this size expansion card, including the new Risc PC. RISC OS 3.1 and a minimum of 2 MBytes required (ARM3 and 4 MBytes for movie recording and sound output).

Further details are available from Computer Concepts on request.

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RISC OS 3

Turbo DRIVERS

VERSION 4

...more Drivers

The TurboDrivers have been extended to support new printers, including the Epson Stylus Colour and to be compatible with the latest versions of Acorn !Printers and the RiscPC.

...more Turbo!

In the simplest cases, printing single copies of black and white documents, with little or no graphics, the TurboDrivers give performance gains of twice or more. However, for more complex documents, or multiple copies, or for colour documents the gains can be even more spectacular.

Our tests show that when printing two copies of a typical 3 page document, containing a good mix of font styles, Draw and Sprite graphics, TurboDrivers can give control back up to ten times sooner than the Acorn drivers.

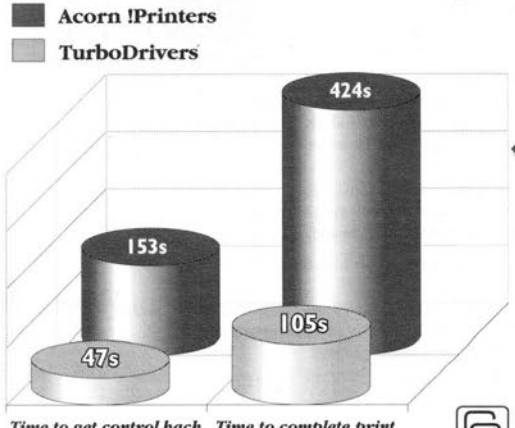
These tests are done with the Acorn drivers in 'background' mode (the new 'faster' way to get control back). When using the Acorn drivers in 'normal' mode the differences are even greater. The speed gains apply both to the older Acorn range and the Risc PC computers.

With the availability of new reasonable cost colour inkjet printers, and the increasing use of colour in printed documents, there is now even more reason to use TurboDrivers than ever before.

TurboDrivers Canon - £49 + VAT (£57.57 inc)
TurboDrivers HP - £49 + VAT (£57.57 inc)
TurboDrivers Epson - £49 + VAT (£57.57 inc)

Version 4 drivers require Risc OS 3.1 or later. 2 MByte RAM and hard disc recommended. Please state printer type when ordering.

Risc PC TurboDriver timings



The graph shows the spectacular performance gains that are possible using TurboDrivers. These comparisons are made using the latest versions of !Printers, with a fairly complex single page DTP document (!MicroScope) on a colour inkjet and show that even on a Risc PC, the TurboDrivers can dramatically improve your printing performance.

Computer Concepts Ltd

Gaddesden Place, Hemel Hempstead, Herts, HP2 6EX Tel 01442 63933 Fax 01422 231632

Email info@cconcepts.co.uk

ArtWorks Column

Trevor Sutton

Things have certainly been happening on the AW front recently, so it is time for another column. I was pleased to chat with people at the Archive stand at Acorn World 94 and am delighted to have made my second appearance at Wembley; something to tell my grandchildren.

I have just bought CC's new ClipArt CD which is the culmination of their competition to win a Pioneer double speed, six disc CD-ROM drive.

Clips and CD ROMs

I am convinced that the vast range of currently available clipart is in demand. Designers who need to use graphics within a variety of contexts will use good quality clipart to save time. I know designers who create much of their own art work but they still have an extensive library of clipart in their collection.

Large libraries of bit-mapped or vector graphic images take up a lot of disc space and so the CD-ROM is the ideal storage medium. However, the space on a CD-ROM is vast and so often it can be filled with poor quality images.

The images on the first AW CD were in many cases superb works of art demonstrating hours of very careful work. These were definitely not clipart. I enjoyed browsing through all the images and have a couple of hard copies pinned to my notice board. However, it has to be said, that I have not used any of the images in any of the graphic work I have done over the last 3 months. The things I wanted were just not there or the artwork was so complex and the files so large that their use was inappropriate.

I did find much of it on some of my old PD and magazine discs and certainly on the two CD-ROMs which accompany the Corel Draw 4 package. The latter is a treasure chest of images. Yes, we are talking about a large and expensive package in the Corel Draw suite and I would still by choice always use AW.

These days, quality support materials count for a lot when choosing a new product, the AW fonts are varied and useful and enhance the value of the package but there is no comparison between the graphic accompaniments.

You will, I am sure, point out the price but here's a tip for those of you able to run Windows and use PC CD-ROMs. Corel Draw 3 may still be available on CD for about £60.

I will give you some idea of the number of images here. This CD comes with a book about the size and thickness of the RISC OS 3 User Guide containing nothing else but thumbnails (about 3cm square) of the clipart and alphabets showing the fonts. Wow!

It is, I feel, disappointing that the latest AW CD-ROM is again the result of a competition and therefore has no thematic material. If I want a spanner then I must go to a company such as DEC_dATA and their excellent series of drawfile discs or convert from the Corel CD. All we can get on CD for our favourite art program is a beautiful, yet disparate, set of images which may, if you are lucky, be useful.

Images and choice

I would be interested to hear what people think about the above. If CC want to become competitive outside education and the home, they perhaps ought to consider compiling a collection of clipart.

Many, very beautiful bit-mapped images are currently available and, having seen the Risc PC in action and had my first Photo CD back, the quality is fantastic. We do have a problem, though, if we are wanting a hard copy. The comparison with the screen image is often very disappointing. If you are a multimedia person, there's no problem. Printing vector graphics is a different matter, images from AW to even the humblest of dot-matrix colour printers can be impressive. Printing to lasers or the colour bubble-jets is often better than the screen image.

This would suggest that the best type of clipart is drawfile or AW format.

Because AW uses anti-aliasing of lines, I have frequently grabbed AW screens in order to produce the best quality in a sprite consisting of lines. These images look better on a Genesis page than do drawfiles. (I guess Paul Hooper will remind me that Genesis Professional will accept AW files).

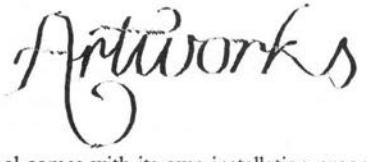
I often make application sprites in AW, subsequently grabbing them using !Paint and reducing their size in !ChangeFSI.

New Tools – Pressure Sensitive Tool

This is ideally suited for use with CC graphics tablets; the new tool gives a range of different effects within AW. The tool is added to the toolbar and, when selected, it brings up a panel similar to the freehand tool. It allows accuracy to be set and also the range for the thickness of lines.

One of the features I have recently seen available on vector graphic packages on other computers was the facility to produce lines which simulate brush strokes. This is a line which changes from thin to thick and to thin again. This is a natural result of the way we vary the pressure when we draw or paint with our hands.

Now this is possible using the AW pressure tool. The tool does work to an extent with the mouse though the variation of pressure is not possible.



The tool comes with its own installation program in the manner of CC's other software.

A good feature of CCtablet, CC's software for the graphics tablet, is the calligraphy mode. This gives thick or thin lines depending upon the direction of movement of the pen, thus simulating an italic nib. Occasionally, however, I found that spurious splodges occurred along some lines and I still don't know if it is my fault.

In conclusion, I would say that this tool is a vital adjunct to the ArtPad graphics tablet and enhances its use within AW. Without the tablet it is not really worth considering.

The prices are given in the review of the ArtPad.

New Tools – Arranger

When creating a drawing, it's often useful to align objects to guide or construct lines. Arranger allows you to specify one or more layers as containing magnetic objects. Guidelines can then be drawn in a magnetic layer. These guidelines need not be straight and will attract points or objects in any layer dragged close to the guideline.

For those of you who use AW for more technical drawings, it is an addition to the AW toolbox that you should not be without.

The package includes full instructions and an easy-to-use Installer.

The price is £29 +VAT from CC or £34 through Archive.

Coda

It is heartening to see that AW is being developed and new tools are becoming available. The ArtPad tablet should prove very popular with people who use AW regularly for producing commercial drawings. The price could well put off the home user – it certainly put me off, but that's because I've just invested in a fast modem!

I am still waiting for the hatching tool.

You can now contact me on: Arcade Bulletin Board #1579 or by e-mail **TrevSutton@arcade.demon.co.uk**

So if you have any queries or suggestions, you can now send them directly to me. A

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Acorn User, July '92

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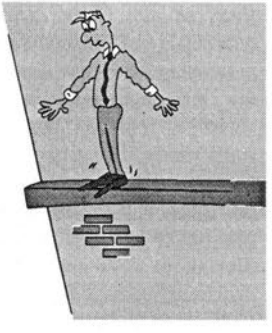
RISC User, Jan/Feb '94



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Comment Column

• **Blinds (not a) problem** – I bought Blinds from Quantum but had a problem printing from Publisher when Blinds was loaded. I scribbled a note to that effect on my Blinds registration card and was amazed to receive a phone call the following day. The problem seems to be with the early Turbo Driver when used with the older versions of the Acorn Printer Driver (<1.22). An upgrade to the latest Turbo Driver and Acorn's driver should fix the problem. Excellent service, Quantum, thanks! **Tony Otway, Exeter.**

• **Future enhancements** – I have noted the use of C++ in the Unix environment leading to a quadrupling of program size with little improvement in functionality. I also suspect that the use of C++ in the DOS environment is partly responsible for the enormous resources required by most Windows 3 applications. I therefore conclude that, although C++ does lead to an increase in programming efficiency, it does this at the expense of the user, who has to invest in more disc space and memory. Moving to C++ on our Unix computers meant increasing memory from 8Mb to 96Mb. In addition, I have been finding more bugs in C++ software than in the days of C and Pascal – I suspect that the reduction in development time puts pressure on the time allocated to test the software before release. I hope that moving to C++ on the Acorn machines gives some benefit to the user. **Peter Tuson, Fleet.**

Matthew's note: It is certainly true that the requirements for C++ are somewhat higher, but probably the greatest advantage is the large amount of C++ software. Most PC software houses now use C++, so to transfer the software to the Acorn platform is currently not very easy. Computer Concepts have stated, for example, that some of the new functions available in their Camelot graphics application for Windows will not be added to Artworks until there is a C++ compiler. Because of the relatively small Acorn user base, many companies do not feel it is worth the effort of converting packages. By providing a C++ compiler, Acorn are reducing the effort needed, and thus opening the door to a greater range of software, giving a greater choice to the user. **Matthew Hunter, NCS.**

• **Guardian's 'independent' comments** – Did you see the comments by Liz Roberts in the Guardian International newspaper on 6th December? She was writing about buying a home computer. After spending 8.8 column-cm on Apple ("Macs are very easy to use for novices.") and 10 column-cm on IBM-compatible ("they are more complicated than Macs"), she dismisses Acorn with the single paragraph, "Other options include Acorn, which has been standard in schools, though this is changing. Relatively cheap at the basic end, but not very whizzy or user-friendly, and the compatible educational software is often dull. You might prefer to enhance your child's computing rather than replicate what's at school. Amiga is now essentially a games machine."

I was incensed when I read it. What does she mean by "whizzy"? Is it relevant anyway? How whizzy an Apple or a Mac can you buy for £299? "Not user-friendly!" You must be joking. Has she ever used a RISC OS machine? (What are the odds she's a Mac-aholic and can't cope with changing to the much more intuitive RISC OS filing system where you drag the file into the place where you want it to go rather than saving it via a list of directory names? "Now where did I save that file?!") The educational software is dull, is it? Has she asked anyone about the *educational* value of Mac and PC software?

Was this same article published in the U.K.? *(Yes, I've recently had a similarly angry comment from a UK reader. Ed.)* How can they get away with such biased reporting? **Bernard Maugoust, France.**

• **Internet over Ethernet?** – Most of the numerous magazine articles about e-mail and the Internet discuss connection by phone through one of the commercial suppliers. Direct access through a local network and JANET is mentioned only in passing, as though it were a simple matter. I have found it not to be so straightforward, and thought that an account of the process might be useful to people who have access to this route but, like me, know little about computer networks.

My early encounter with e-mail was not encouraging: the messages passed seemed neither literate nor valuable. Value is better judged by the senders and recipients, but the explanation of the literary failings was simple: those were the days when text editing had to be done with a program called Lined whose use required incredible patience, so no-one bothered to correct typing mistakes. In any case, using e-mail involved finding one of the limited number of computers connected to the system, and they seemed always to be in use.

A revision of my view occurred when a colleague in the United States sent me a fax about some results of mine which had been obtained in a laboratory about 10 miles from where I work. She had had the information before I had – by e-mail! Then, my new Risc PC could be fitted with a bargain-priced Ethernet card and the new building I was about to move into was abundantly supplied with outlets. So I added an Ethernet card to my order for the computer.

The system to which I hoped to attach myself consists of several Sun workstations (and some other, more specialized, computers) with an extensive local Ethernet network connecting PCs (mostly) and Macs and an outgoing connexion to JANET and thus to the Internet. I would be the only Acorn computer on the system. Fortunately, a colleague in the computing group is even more of an Acorn addict than me and persuaded the network organisers to let me try.

The card arrived, some weeks after the computer, and snag 1 immediately appeared. Our new installation uses 10baseT Ethernet, which has outlets rather like telephone sockets, whereas the Acorn card is designed to operate with 10base2, which uses BNC connectors. (PC cards seem to have both sorts of connector, so the change was no problem for most users.) Some phone calls to NCS and Atomwide (who make the card) found that although Acorn only supply 10base2 cards Atomwide make other sorts – and the price is the same. So a swap was organized and occurred with remarkable speed. The board was simple to fit and worked at once

Snag 2 was that I needed some software. An e-mail message to Acorn (via a helpful colleague) got the reply that I needed the 'TCP/IP suite'. It was formerly available only with a quite expensive site licence, but single-user copies can now be supplied, costing about the same as the card.

Installing TCP/IP presented no problem but Snag 3 was configuring it. The program needs to know about the host computer(s) it is to deal with, which involves editing several configuration files. All this is explained in the manual, but it is complex and confusing to a newcomer and you really need to mobilize help from someone who runs the network. Our person had never dealt with an Acorn computer before and is immensely busy (never believe that computer networks can run themselves). So progress was incremental over a period of several days and there were times when it was not clear that the system would ever be able to work.

It does work. There are three distinct modes of operation. First, one can open a display of one's home directory on the main computer and do all the usual file-handling operations, including transferring files to and from the Risc PC. The only difference is that the processes are a bit slow.

Second is Telnet which is a sort of terminal actually operating the main computer – this is what I use for e-mail. It also gives access to our local information files and to World Wide Web and the remarkable Archie, which provides information on the location of files on the Internet. A small trap for the unwary with Telnet is that it is operating a Unix system which is case-sensitive, so file names have to be typed properly with capital letters in the right places. A separate program called MailMan is provided with the TCP/IP suite, which will transfer e-mail directly to your Acorn computer; at present I can read mail through Telnet but if I want the files, I have to save them to my directory on the main computer and then transfer them to the Risc PC as a separate operation. Unfortunately, MailMan looks as if it needs quite a lot of setting up, and no-one has had time to try this yet. An aspect of e-mail that I had not appreciated is that one can embed files in the messages and these can be any sort of file including DTP files and graphics. Ordinary text messages are best prepared in Edit and then transferred unless one is a super-accurate typist or the messages are very short.

Finally there is Ftp, which is for transferring files to and from remote computers. This did not seem to work at all at first. It was clearly logging on to the remote computer but the keyboard was frozen and I could get nothing further to happen. Then we found that it is all mouse-operated from a menu. This is a rather clumsy system although it saves having to remember the special set of commands used by Ftp.

Another clumsy feature is that Ftp uses Internet numbers for addresses rather than the more memorable names. Other systems translate from the names to the numbers using a sort of telephone directory, but if the Acorn system does support this facility, I have not discovered how to get it to work. When I download a file I get a familiar 'save' dialogue box so I can direct the file to any directory I choose. Decoding files afterwards may be needed, but there is a well-explained set of programs for doing this in the \micros\arch\riscos\tools directory of hensa. In practice, the whole operation is very simple and not intolerably slow. It is really quite exciting to collect huge JPEG files of satellite pictures from Arizona and have them on the screen within minutes, the decoding in this case being done by ChangeFSI so that all you have to do is to change the filetype.

Is it worth £200+ (assuming you already have the computer)? I think so. It is not a very elegant system compared with some of the Windows-driven ones I observe down the corridor but it seems quite robust and certainly delivers the files. Unless you already know a lot about networks, it is essential to have a sympathetic network manager to help set the system up. The TCP/IP manual is large and clearly written but it contains a great deal of jargon (well, special vocabulary) which would make a do-it-yourself approach hard and slow. *(I'm afraid I've lost track of who sent this contribution. Thanks for it and sorry for my inefficiency. Ed.)*

• **Key Author / Studio 24 clash** – With Studio24 (the art package, not the music package) version 1.1 and Key Author 2.00, if ST24 has been run/is running, the KA overview only has the branches of the tree, but no slab icons showing the actual pages/ hotspots being linked! The software houses have been alerted but no solution is available yet. **Tim Nicholson, Cranleigh.**

• **Text editor !Zap, version 1.20 (24-Oct-94)** – One of the main advantages of Edit (if not the only one) used to be its modest RAM hunger – but on the Risc PC this is no longer the case. Version 3.50D (D for Germany) needs 188Kb of RAM. Of course, many users won't need the full power of one of the commercial text editors like StrongEd or DeskEdit, and so will dislike the expense. However, there is an excellent alternative in the latest incarnation of Zap (120Kb on the iconbar), which was written by Dominic Symes (NB: Click <select> on the author's name in the iconbar Info window!), and should be available through most PD libraries.

Above and beyond the scope of Edit, it has a host of extra features. This is the list from the Help file:

Main features:

* Display may be in text, byte or disassembly format.
* Syntax-coloured editing modes for C, Assembler and Basic.
* All key shortcuts and menus are user-redefinable.
* Full (Unix style) wildcard search with your own definable macros and search 'throwback' buffers.
* Proper Unix tabs and true scrollbar operation.
* Full undo on all operations.
* Copy key causes standard cursor editing.
* Fast redraw in system or anti-aliased fonts.
* Any number of markers on each file, and a facility for following branches in disassembly mode.
* Full ARMBE-style Basic Editor.
* Search as you type with minibuffer.
* Learns keys sequences.
* Emacs style Yank (Cut & Paste) and !Edit style move and copy implemented.
* C throwback/info supported.
* Reads disc sectors/tracks and memory of other tasks.
* Keyboard selection of regions.
* Taskwindow supports control characters / line-editor.
* Emacs compatible keymap.
* Auto indent.
* Can edit assembler instructions in code mode.
* Compatible with RISC OS 2 & 3 & Risc PC.
* Automatic detection of DOS text files.

My personal favourites (I am a programmer, and mostly just a person who spews out lots of text) are:

① The colour coding (in anything but plain text): if, for example, you look at a Basic program or a module, searching for a certain string, recognisable elements like REMs and Basic key words have their own colours.

② The incredible configureability (is there such a word in English?): all the keyboard shortcuts (I didn't count them, but there seem to be hundreds) are presented in a plain text list and can be edited very easily – an example: *cB ... LEFT* means that <ctrl-B> moves the cursor left one character – and it is even possible to rebuild the menus, because they too are defined via a text file!

③ The really powerful find/replace options (admittedly I found the learning curve rather steep).

At the price of a copied disc, I found this a very worthwhile acquisition. Recommended. **Jochen Konietzko, Köln.**

Desktop Lemmings & Oh No More Lemmings

Andrew Rawnsley

With the release of the Risc PC, came a problem. The new architecture, and in particular the VIDC 20, caused incompatibilities with many major games. The original Lemmings product from Krisalis simply wouldn't load, and the copy protected Oh No! disc can't be read on a high density drive. Whilst the situation was rectified to some degree by The Arm Club's !GameOn! product, Krisalis have gone one better with a complete re-release of the products in one compilation pack, all enhanced to run in the desktop, for those moments when word processing begins to get boring!

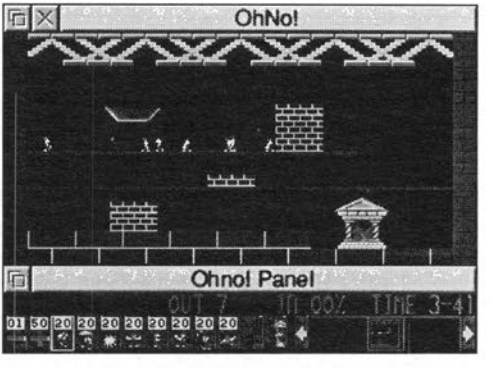
Technicalities

It is quite remarkable that Krisalis has managed to get the program running at normal speed within the desktop, a feat never possible on pre-ARM 6 machines due to the speed constraints. It is also quite a tribute to Acorn – long live RISC architecture! Indeed, other tasks work at a fine speed whilst the game is running – it's going in the background as I am typing this into Publisher!

The system is controlled by a module called Client Manager which generally looks after the desktop side of things. This is particularly important, because now that both products can be run side by side in the desktop, new problems arise such as which game should control the audio – after all, only one can pump out the tunes at once. Client Manager solves the problem by warning the user that an audio clash is going to occur, and then runs the second game without sound, allowing the first to continue as normal – simple! The Client Manager system is PD, and Krisalis are encouraging games developers to use it in their own products.

Enhancements

When you buy the pack, you get all 120 levels of Classic Lemmings, and all the other Oh No! levels. There are no new ones, and they all play exactly the same as the originals. However, you do get a fully Risc PC compatible version which runs in the desktop (useful for stopping PC and Mac owners in their tracks), or as a full screen game. This latter option is a godsend, as you will see...



Desktop Lemmings – Yes it is that small (nearly!)

Problems

Whilst the product appears to be bug free, the problems start with the sheer size of the screen modes available on the Risc PC. A 1Mb VRAM machine can easily run at 1024×768 pixels in 256 colours, making this an ideal resolution for both 14" and 17" users. It is my mode of choice until I can

afford the 2Mb upgrade. The original Lemmings products were written for the old mode 13 (320×256), and since all the desktop front end does is play the old versions in a suitably sized window, it takes only basic maths to see that, at the high Risc PC resolution, the game will occupy less than 1/6 of the screen. Naturally, this came as quite a shock when I first loaded! Fortunately, the game is still very playable at this size, but I feel sorry for 2Mb VRAM owners who will probably be running at even higher resolutions

I have adjusted my modes menu to allow direct access to very low resolution modes for Lemmings playing, but the better solution is to opt for the full screen mode. This loses the gimmick of the desktop front end, but you gain the ease of use produced by having a much larger version to play.

Conclusions

This pack does exactly what it says – it allows you to run Lemmings and Oh No More Lemmings, both in the desktop and out of it, on the Risc PC. In doing so, it solves compatibility problems, and gives you a second chance to hear what is still one of the finest collections of in-game music around. All for £29.99 inc VAT (or £29 through Archive).

Throughout the article I have assumed you have played or seen Lemmings before. If you haven't, where have you been for the last three years? All I will say is that it is one of the most jolly and amusing puzzle games around, and it will appeal to almost everyone.

If you have the original Lemmings game, paying the full price of the new version may seem a bit steep, so I would recommend purchasing the rather cheaper !GameOn! to play it on the Risc PC. Oh No owners are really stuck I'm afraid – the problem with the disc protection means that you probably won't even be able to play the game with !GameOn!.

However, if you haven't got a copy of the original Lemmings game, and just happen to own a Risc PC, Desktop Lemmings and Oh No More Lemmings will provide you with hours of fun. And when the levels become just a bit too easy, you can play both games at once...! A

Help!!!!

• **InterSheet** – Does anyone have an InterSheet ROM for BBC (i.e. *not* the Archimedes version) they could let us have for a small consideration? It's for a friend who still uses a BBC Master – well, why not if it does the job adequately? Thanks. **Ed.**

• **Lost Treasures of Infocom Volume 2** – Could anyone tell me where to get a Hint Book for the above set of 11 text adventures? Volume 1 was supplied with a Hint Book but nothing with Volume 2! I purchased both sets from FX Direct in Banbury, but they no longer appear to be in business. Help is urgently required with "Trinity" as I am stuck with 90 points out of 100. I can be reached at most times of day or evening on 01202–510340, or to **Graham Hatcher, 23 Vicarage Road, Moordown, Bournemouth, BH9 2SA**.

• **Mouse Conversion** – I have a Logitech TrackMan Stationary Mouse (basically a serial trackerball for an IBM). I have tried using it in the serial port with the correct mouse type selection and it gives weird results. As my serial port is used for other connections, I wish to adapt it to be used from the normal mouse port. Can anyone help with any wiring alterations I will need to do or adaptors I may need to build. The devices has three buttons and I realise I will have to replace the plug with a suitable one – again can anyone advise me where I can obtain the correct type of plug. **J. Bean, Witney.**

• **Parish accounts** – Is there anyone out there with such a package? And how is it better than a spreadsheet? **Peter Bond, Carnforth.**

• **Tapestreamers** – Does anyone have an address for Tanberg or Exabyte or their main agents in UK? I am looking for manuals for Tanberg 3800 and Exabyte 8200 tapestreamers. I am willing to pay reasonable costs including postage to obtain the manuals. Please contact **Peter Young, 20 Racecourse Lane, Northallerton, DL7 8RD.** A

NCS Technical Services

Free after-sales service

What I neglected to make clear in my article last month (p17) is that we are still offering free after-sales service, both by phone and letter. I think that it was *implied* in what I said about the free hard drive installation but I agree that I didn't state it specifically – so let me do so now.

If you buy a product from us and have difficulty installing it or if it goes wrong within the warranty period, our engineers are here to give you help over the phone (or by letter) with those problems.

Staff shortage – Currently, due to a staff shortage, it would be most helpful if you could confine your technical phone calls to the morning. Thank you.

Technical help network

In the 'spirit of Archive', we are already getting offers from people who are prepared to try to answer technical enquiries about different subjects. If you are prepared to help too, please let us know (a) your area of expertise, and (b) how you would like to be contacted, e.g. give address, phone number (or specifically request no phone calls), fax, email, carrier pigeon, etc.

To remind you of the way we expect the Technical Help Network to operate... You send in your technical query on paper or email (i.e. not by phone). If our engineers can answer it and it is something which others would be interested to know, we will write it up for the magazine and send you a copy of the write-up straight away (so you don't have to wait for the magazine).

If it is too specific to be of general interest, we will send it to one of our Column Editors, e.g. Risc PC, Multimedia, etc, or to one of the technical help network to see if they can help. If they can't help either, we'll put something in the Help Column.

Avie Electronics would like to wish all Archive readers a very Happy New Year. We hope to be of service to you in 1995.

Avie Electronics

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Puzzle Corner

Colin Singleton

First of all, may I clarify the puzzle attributed to me by Gerald Fitton? (See *Gerald's Column, Archive 8.4 p33*) I envisaged a *table* of figures (rather than a *list*) with row totals, column totals and a grand total. I want an algorithm which will round all the figures for printing, including the totals, each either up or down to the next integer, but not necessarily to the nearer of the two adjacent integers. This must be done in such a way that all the rows and columns of integers, including the totals row and totals column, add up correctly as printed. Gerald introduced the 'most suitable' rule, which can be applied (quite easily!) for a *list* of values but, in general, makes the problem unsolvable for a *table* of figures.

No, Gerald, I am not an accountant but I have, in the last thirty years or so, often had to design software to meet accountants' requirements. The above problem arose in real life, sometime in the late 'sixties, but I have forgotten how I solved it. I never know what to expect in your column these days – keep up the good work!

Here are this month's two – very short – puzzles ...

(7) Friday the Thirteenth

This magazine should drop on your doormat within a few days of Friday 13 January, 1995, and that ominous date occurs again in October. But when was the last time that Friday the Thirteenth occurred three times in seven consecutive months? And when will this next happen?

(8) Marbles

What is the largest number of unit-diameter marbles which can be packed into a rectangular box measuring 15×12×3? The highest proven answer submitted will be declared the winner, even if it is not the best possible.

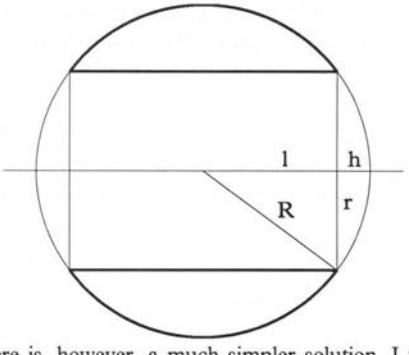
... and last month's two answers ...

(5) Cheat!

Answer – One! We can prove this by simple algebra. Let P be the value of the prize (in pence), and C the cost of each entry. Assume that I make M correct entries, and there are N other correct entries. My chance of winning in the draw is $M/(M+N)$. My 'expected' prize income is therefore $P \cdot M/(M+N)$. My cost in postage is $M \cdot C$. My return (per unit cost) is therefore $P \cdot M/M \cdot C \cdot (M+N) = P/C \cdot (M+N)$. Whatever the values of P, C and N, this ratio is reduced by increasing M. Hence I can maximise my (percentage) return by submitting only one entry to each puzzle.

(6) The Hole

Answer: The hole was 5 inches long. We are not told the radius of the original sphere or of the hole, but the one value given is all we need to solve the problem. The diagram shows a section through the centre of the drilled sphere, along the length of the hole. R is the radius of the sphere, and r the radius of the hole. The length of the hole is $2 \cdot l$, and the height of the spherical cap cut off at the end of the hole is $h = R - l$. You can calculate the volume of the original sphere, and the volume of steel drilled out, in terms of these variables, and will find that most of the variables cancel out. The volume remaining is the same as the volume of a sphere of radius l. Hence $2 \cdot l = 5$.



There is, however, a much simpler solution. I told you that you needed no more information. From that you may conclude that the solution is independent of the unknown diameters, and therefore holds for the limiting case in which the diameter of the original sphere is 5 inches, and the diameter of the hole is zero. The answer is then obvious!

... congratulations to the previous month's winners ...

(3) Tithes Winner – **John Hollier** of Canterbury.

(4) Prime Post Winner – **Dr W O Riha** of Leeds.
(The solution was supposed to have been on the monthly program disc last month. It IS on this month. Ed.)

Comments and solutions

Here's another unofficial puzzle – unofficial because I do not know the answer! What is the smallest number of entries you can make in the National Lottery and be *certain* of a £10 prize? Please send comments, contributions and solutions to me at 41 St Quentin Drive, Sheffield, S17 4PN. Solutions by **Friday 10th February, 1995**, please. Many thanks for the appreciative comments received to date! A

The RISC Disc CD

Jochen Konietzko

The RISC Disc (Volume 1), produced by Uniqueway Ltd, contains about 500Mb of data and costs £19.95 inc VAT or £19 through Archive. Most of the software on the disc works under RISC OS 3.1 and 3.5, a handful only under one of the two.

Main titles
The RISC DISC
Welcome to the RiscDisc. This disc contains a host of useful utilities and demos to help you get the most out of your Acorn Risc PC or Archimedes computer. All software has been tested to work on RISCOS3.1 and RISCOS3.5 and where possible make use of new facilities that are available.
Click here for information on the creation of this disc.
ABOUT THIS DISC

Presentation

The disc has been equipped with a hypertext browser which makes accessing the various files a real pleasure. It is also different from The DataFile CD, which was reviewed in Archive 8.2, p65, in that it has a rather different emphasis. It comes in a number of sections which I shall deal with in turn.

Commercial

On this CD, commercial demos have been given a lot of space. This section contains working demos and descriptions of well over a hundred bits of commercial software from 33 software houses (160Mb in all). The range is from Anglia TV's description of ten educational CD-ROMs to 4Mation's fully working demos of sixteen programs – and there's a whole volume (Vol. 7) of Archive magazine on the disc.

In this section, I found a bug: Acorn has put "a massive demo" for the Risc PC (requires 8+2Mb RAM) on the disc, but I was unable to get it working properly. Even when it did work, the demo produced lots of "out of memory" errors when it tried to load some of the applications supplied with the Risc PC.

The demo essentially shows that the Risc PC can do lots of nice things with outline fonts, can play video clips and music, and can create vector graphics. At this point, my demo always crashed and left me without a task manager and screen mode manager on the iconbar.

PD/Shareware

This part contains over a hundred bits of software covering a very wide range – from little modules like the one which gives more options to the Back icon (you can now step through the various layers of windows, both towards the back and towards the front) to the formula editor TEX (found on just about every computer system) which takes up more than 11Mb of disc. This section, divided into Applications, Code, Comms, Demos (the weakest part),

Main index
Commercials
PD/Shareware
Resources
Photo-CD
Useful Text Files
This is the main menu for the RISC DISC.
To browse through a section click on the icons on the right hand side of this screen.
Once you have chosen a section the hand icons will then enable you to step through the pages in that section or return to this menu.
To search for a particular item or subject click on the SEARCH icon or click the MENU mouse button to call up the search window.
SEARCH
HELP

DTP, Games, Sillies, Utilities and Sound, probably contains something for everyone.

For those who suffer from the position of <ctrl> on the Risc PC keyboard of the, there is a Basic program which creates a patch for the keyboard driver.

Resources

The directories in this part contain a number of files to be run with various viewers, including foreign format films: AVI, which (I think) is Video for Windows, and FLI, which (again, I think) comes from Apple.

The JPEG and drawfiles are hidden in copies of ImageBank, which won't run on the Risc PC (at least version 0.58 doesn't on mine), but the images can be extracted manually. They have cryptic names like 2EA1240D, but the images are described in a text file in the same directory inside ImageBank.

Photo-CD

Not much to say here: 17 non-exciting Photo-CD images, without a viewer (at least I didn't find one). The pictures can be shown with ChangeFSI or Acorn's PhotoView (which will have accompanied the CDFS driver for your CD-ROM drive).

Useful text files

This contains a number of files (600Kb in ASCII format) with questions and answers about Acorn topics, apparently downloaded from the Internet.

Miscellaneous

The root directory contains recent versions of ArPlayer (v1.30) and ArMovie (v0.34) and a Fonts directory with five PD font families for use with the CD (in addition to the 16 font families in the PD section).

The Install directory and the text file Intro are worth investigating, if you wish to use the CD.

Conclusion

I am not quite sure for whom this CD is intended. I suppose that those who will derive the greatest benefits from it are Risc PC owners new to the Acorn world. A

Hints and Tips

• **DPatch/DongleKey** – This program was on the Archive 7.9 Program Disc to unlock Impression/Artworks dongles which otherwise can prevent printing taking place.

If all CC dongles are removed from a machine, DPatch must be deleted from the !Boot file. Without a dongle fitted, DPatch will cause all printer output to be corrupted. I discovered this when transferring Publisher and Artworks from A5000 to Risc PC and attempting to set up the A5000 with a Star XB24-10. The Risc PC does not need the patch to allow printing to go ahead in the absence of Publisher or Artworks. **S Goddard, Bury St Edmunds.**

• **Garbled *Screensave:** This is a cross between a bug-report and a note saying, "If this happens to you, you're **not** going mad". I've just started using !Quickshow, a neat little slide-show utility from DeskTop Projects. When it saved a completed screen to disc, it seemed to write a garbled sprite, with blocks of the sprite moved around internally. Examining the code showed that the program simply displays the sprite on screen and then does a *Screensave to write the sprite to disc. Furthermore, the corrupting of the sprite *didn't* occur when I wrote to floppy rather than to my hard disc. Writing a one-line Basic program to perform a screen dump replicated the bug absolutely consistently, and only in mode 15. I conclude that, on my A310, RISC OS 3.10, with version 1.16 of the Oak SCSI software, with a 270Mb Quantum drive, in mode 15, *SCREENSAVE to the hard disc has a bug – somewhere! I don't know what to suspect, but if you ever encounter garbled sprites, don't blame the application – or tear your hair out! **Stuart Bell, Horsham.**

• **Tablemate warning** – Unless your table is small, DO NOT type your data directly into Tablemate. Instead, type it into a CSV file using Edit and import that. I have two tables several pages long and did not import the text. As a result the only way I can now edit them is by exporting drawfiles and patching them back together. **Peter Bond, Carnforth.** A

DTP Column

Mark Howe

Take the plunge!

Why not start 1995 by having your next newsletter, brochure or leaflet imageset? If you usually have films made from your artwork, you can save time and improve print quality. If you usually make photocopies, plastic plates could save you money. If you are a 'techie', you can have endless fun producing your own PostScript and transferring it onto Mac format SyQuests. If not, both T-J Reproductions and Micro Laser Designs can quote for a complete service from Impression file to finished print job.

Memory overload

Since the last column, I have produced several quite large documents, including a 2.5Mb two-colour newsletter. I kept a careful log of problems, as requested by Computer Concepts. My conclusion is that the stability problems I have experienced with Publisher occur mainly when RAM is short, although I cannot reproduce the errors systematically. Is anyone else having this kind of problem?

RAM availability is going to become an ever more important issue as DTP users become more ambitious and colour scanners become the norm. Publisher supports simple slaving to disc (remember that this only works with multi-file saving). However, to quote Steve Powell of Acorn User, if you want to work on an 8Mb image on an 8Mb system, "you're stuffed". I sincerely hope that the next version of RISC OS will provide true virtual memory management.

So how much RAM do you need for Acorn DTP? I reckon that 4Mb is an absolute minimum, and even my 8Mb A5000s feel a bit small if I am using Publisher and several other programs at the same time. Is anyone out there doing DTP on a 2Mb system? *(Yes, there are such people. And is there any other 2Mb floppy-drive computer in the world that you would even* ***consider*** *using for DTP?! Ed.)*

Problems of scale

Colin Singleton wrote that there was no easy way to get back to the previous scale after using the zoom-rectangle feature of Publisher (Archive 8.4, p48). I hate to admit it, but if you are using the tool bar you can do this just by clicking <adjust> on the scale icon. Having turned off the tool bar, I have to press <ctrl-f9> and click on 'previous zoom'.

What about Ovation?

I am an unashamed Impression fan – criticisms of certain aspects of Publisher notwithstanding – and I admit that, until recently, I had assumed that it was the preferred program of all "serious" Acorn DTP users. However, Jim Nottingham, who uses Ovation alongside Ventura Publisher, assures me that Ovation compares very favourably with the opposition. Once Ovation 2 is released, I hope someone will write a comparative review. In the meantime, how about some Ovation hints and tips?

Designing better documents

Page layout did not start with the A310, or even with the Macintosh. Drop caps were probably invented by mediaeval monks, and many of the fonts we use today were designed for use with printing technology that became obsolete decades or centuries ago.

The advent of offset litho printing and DTP film origination has removed many of the limitations which designers through the ages have had to work with. Fonts no longer have to be physically strong enough to be carved out of wood or cast in lead. Line spacing is no longer limited by the rails used to hold letters. Four-colour process printing means that a vast range of colours can be produced on paper. For the first time since the invention of the printing press, technology places few constraints on the creativity of a graphic designer.

However, freedom without responsibility is always dangerous. In the right hands, DTP systems can produce highly professional documents, faster and more cheaply than conventional techniques. In the wrong hands, the results can be far worse than any typesetter could ever have produced manually.

Part 1: Legibility

This is the most important criterion by which almost any page layout should be judged: unfortunately, it

is also the most frequently forgotten. If your audience cannot read your text, or if your "creative" layout makes reading difficult or unpleasant, you have failed.

Many factors influence legibility. If the **column width** is too large, the readers' eyes will tend to wander before reaching the end of the line. Conversely, very narrow columns of justified text tend to produce large gaps between words, which makes reading more difficult.

Your choice of column width will be affected by the **font** you intend to use, as well as its **size**. Condensed fonts such as Trinity are usually better for thin columns, while wider fonts such as Palatino (known as Michael or Pembroke on Acorn systems) can be preferable for wider columns. As a very rough guide, you should aim for 35-40 characters per line.

The default 120% **line spacing** in Publisher is usually a good starting point, but you may want to increase this if you have opted for wide text columns.

If you are designing a layout for a regular newsletter, it is worth experimenting with some sample prose to get a combination of font, size, line spacing and column width that works for your text. Your writing style makes a difference: if you like long words, your columns will need to take more characters per line to avoid gaps. Hyphenation can help here: contrary to popular belief, hyphenated text is easier to read than unhyphenated text with large gaps in it.

Make sure that you have left sufficient **space between columns**. This is especially important if you intend to used left-justified text, to avoid the eye skipping from column to column.

If you must use **underlining**, type the text in capitals or move the line down so that it does not obscure the descenders of lower case characters.

Be careful when using **shading**, especially if you plan to print your document on a relatively low resolution device with big halftone dots.

If you put text in a box, or when flowing text around an illustration, make sure that there is a generous **margin** between the text and any lines. This can be achieved in Impression using 'Inset H' and 'Repel text outside' respectively in the 'alter frame' dialogue box.

Reckless use of **colour** can be disastrous. Your new Risc PC may be able to display 16 million hues, but you do not have to use them all on every page! The best colour for text is black, followed by blue (this is because the fovea – the part of the retina used when reading – has no blue-yellow cones, and so blue text is effectively perceived as black). Go for pale backgrounds. If you decide to put white text on a dark background, be sure to use a bold font: otherwise the letters will tend to fill in.

For four colour process on anything but the best rotary presses, it is best to stick to black, magenta or cyan text at small sizes. In other colours, the edges of each letter will end up with a two or three coloured shadow unless registration is perfect. Alternatively, use a spot colour (a special ink of the right colour).

Make sure your document contains enough **white space**: in other words, do not try to fill every square millimetre. Allow generous margins around the edge of each page. Headings should stand apart from any text above them. Leave some space between paragraphs, or indent the first lines. Small text with plenty of white space and generous line spacing can be more legible than larger, cramped text.

Imagesetting part 2: Mastering master pages

You should start thinking about how you will print your DTP documents from the moment you begin designing the basic layout. Failure to do this may mean a lot of extra work at the last minute. In particular, Publisher users will need to choose or create a suitable master page.

You may find a ready-made master page which is suitable for your purposes, but I find that the margins are far too small (in fact, my Brother HL4 laser printer cannot print the top line of text if I use the default Publisher master page).

Creating your own master page is actually very simple, but first you need to make some decisions about the shape of your document. Personally, I tend to draw a rough sketch and then work out all the frame sizes with a calculator.

The first 'new master page' entry requires a name. Choose something meaningful: if you are designing

an A4 landscape page with bleeds, I would suggest something like 'A4+Land'.

The page size buttons are fairly self-explanatory. If you use the custom settings, make sure that you select 'portrait' or 'landscape' first: otherwise, the figures you enter will swap places.

'Facing pages' is useful if you intend to produce left and right hand pages of a booklet on separate sheets. If you choose this option, 'Guttering' sets the amount of extra space to leave for binding at the centre of the finished document. For a document of less than sixteen or so pages, I would recommend laying up pairs of pages yourself onto one larger master page (see Figure 1 overleaf). In this way you will save your printer time when he prepares the plates. While it is possible to use the pamphlet printing feature when imagesetting, it is somewhat tricky and probably best avoided.

'Margins' sets the amount of space to be left at the edge of the master page. Note that, if you are laying two or more pages out on one master page, you will have to set the lefthand margin of the righthand page and the righthand margin of the lefthand page manually. This is because Publisher cannot yet read minds, and thus has no way of knowing that you are going to fold the finished sheet of paper in half.

'Columns' is extremely useful in some circumstances, especially if you dislike arithmetic. Given the number of columns and either the column width or the gap between them, it will automatically calculate the missing figure. If, for example, you wished to produce a master page for two single column pages with side margins of 15mm, you would set 'number' to 2 and 'gaps' to 30mm (i.e. 2×15mm). It cannot handle columns with variable gaps between them: in this case, generate the correct number of columns of the necessary width and move them using 'alter frame' afterwards. The 'columns' section of the dialogue box also includes a button labelled 'guide frames'. More of this below!

'Vertical rules' will place a frame with a thin black border between each column. In some circumstances this can be useful, but most of the time you will want to leave it switched off.

Finally, the control for bleeds is hiding in the 'page control' sub-dialogue box. The printers I use like 5mm bleeds. You can also switch on a page grid from here, but I find guide frames more useful.

Once you have worked through this list, a click on OK will give you your new master page. If you have made a mistake, you can use 'alter master page', but note that the name is misleading: a better description would be 'new master page based on an old one'. You can add extra frames to a master page or alter existing ones in the usual way.

To use your new master page, simply select it using 'Alter chapter'. A word of warning here: you will not be able to select a master page consisting entirely of guide frames if you have previously typed text into the currently selected master page.

What about Style users, who do not have control over bleeds? If upgrading is too expensive or if, like Gerald Fitton, you don't think the new features are worth the pain of having to live with a dongle, you can produce bleeds manually. Make a master page that is slightly larger than normal (twice the size of the bleed to be precise), offset the position of all the frames by the size of the bleed, and then place a transparent frame the size of the finished page and with cut mark borders (N° 11) over the top of all your other frames. It isn't elegant, but I used this technique any number of times with 2.19 and it seemed to work!

What's so good about guide frames?

Guide frames are a powerful Publisher feature which makes very flexible page layouts possible, but since CC decided not to include them in Impression Style, I suspect that many users have never used them. Unlike text or graphics frames, guide frames do not contain anything themselves: they act as a framework on which to "hang" other frames. In effect, they make it possible to set up a user-defined grid on which each page can be arranged.

Guide frames are particularly useful for multiple column newsletters. Figure 1 shows a master page for a typical two-column layout. The page is A4 landscape with 5mm bleeds (shown in grey). I have numbered them in the order I suggest you create them. The co-ordinates of the guide frames are as follows:

Frame	X	Y	Width	Height
1	-5	-5	153.5	30
2	148.5	-5	153.5	30
3	-5	25	153.5	190
4	148.5	25	153.5	190
5	15	15	56.75	170
6	76.75	15	56.75	170
7	163.5	15	56.75	170
8	225.25	15	56.75	170
9	15	190	118.5	5
10	163.5	190	118.5	5

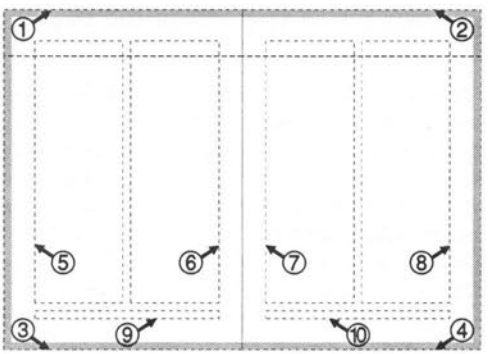


Figure 1

Some of the guide frames may need a little explanation. Frames 5-8 are for columns of text or graphics. Frames 9 and 10 are for page footers (note that the automatic page numbering feature will not work if you decide to lay up pages in this way).

Frames 1-4 define the position of page bleeds. They make it possible to snap to the edge of the document, and also to take a bleed exactly to the middle of the document (i.e. where the fold will be). I have used four frames instead of two to allow a standard height frame for Archive-style titles to be snapped at the top of each pair of columns.

In order to use guide frames, you will have to turn them on using Frame > Snap to > Snap to guides. This seems like a good point to mention another of my minor complaints about Publisher. With earlier versions of Impression, it was possible to save a default document with 'snap to guides' on and 'snap to frames' off. I can no longer do this with Publisher, which is a shame since this is the configuration I almost always want to use.

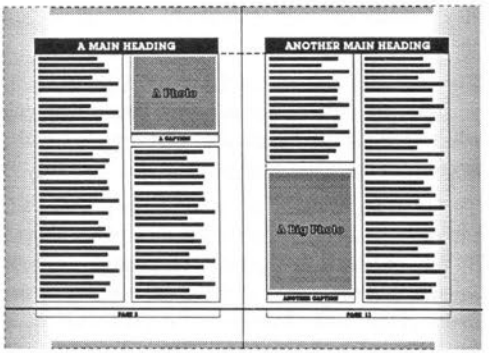


Figure 2

You are now ready to begin putting text and graphics frames onto your page layout. Figure 2 shows what a finished document might look like. Note the use of frame insets. Using the guide frames you can position the frames without having to type in lots of figures and still end up with something fairly consistent.

To finish with, we have a contribution from Barbara Logan about...

Footnotes

A serious omission from Impression Publisher is a feature to produce automatic footnotes, of the type which are included when writing essays or articles with references to work by other authors. All the good word processors that I have used on the PC have had the ability to do this. *(I must admit that I cannot see how CC could implement a fully automatic footnotes feature, given the great flexibility of page layout that Publisher allows. Does anyone know if XPress or PageMaker do footnotes? MH)*

This is the method I have developed to help keep footnotes in the right place in Publisher documents. When you come to a place where a footnote reference should be inserted, enter the next number using superscript text.[1]

[1] The key press for superscript is Shift+Ctrl+J.

Draw a frame the full width of the page (if you are working in 2 or more columns it can only be the width of one column but make it deeper so that it has approximately the same area as a page width frame). Put a border on the top only and leave a

space between the border and the 1st line of text. Reduce the font size or have another style set up with a reduced font size. In the new frame type the footnote.

Cut the new frame. Place the cursor immediately after the note number and press <shift-ctrl-F>. This will embed the frame into the text and keep it with the reference. If you move the reference to another part of the document, move the frame containing the footnote with it.

Add another embedded frame for every new footnote. If two are close together and likely to appear on the same page, make the 2nd frame smaller and omit the border.

When the document is finished, spellchecked and proof read, move the frames to the bottom of the page on which they appear. Start at the beginning of the document and work to the end in order to check layout as you go. To do this you will need to delete the frame then paste it back at the bottom. Second notes appearing on the same page can be copied from their frame into the one at the bottom and the second frame deleted. With practice, it is possible to size the frames so that there is minimal disruption to layout. Usually I number the references as I go but if there are a lot of references and I am moving text around I add the numbers when I move the footnotes to the foot of the page.

Next month...

I intend to take a closer look at generating PostScript from Publisher, and air some more of my views on graphic design. Please send me your comments, hints, tips and DTP articles, either via the Archive office or directly to 2 Montée des Carrelets, 84360 Lauris, France. Fax 00-33-90084139. A

Spreadsheet Column

Chris Johnson

Version 3 of Eureka has emerged very quietly, having been launched at the recent Acorn World Show. I have yet to see any hard selling through magazine advertisements. Paul very kindly sent me a review copy to have a look at, and I present here my first impressions.

The review pack contained, in addition to the Eureka 2 release program and examples discs and complete manual, an additional Eureka 3 program disc and a very slim supplement to the manual (15 pages in total, the first two of which are simply the title page and a list of credits, copyright statements and acknowledgements). I assume those upgrading will receive for their money the version 3 disc together with the supplement to the manual.

Since the latest version of Eureka is now too large to get onto one 800Kb floppy disc, the Eureka 3 program disc contains ArcFS and a compressed directory containing Eureka itself. Installing the new version is simplicity itself. Double-click on ArcFS, and then double click on the Eureka directory. A directory display containing the familiar red Eureka icon opens. All that is required is to drag the Eureka icon into a suitable directory viewer on your hard disc. Installation completed! Compare this with the 13 discs of Excel!

On first loading the new version, I was gratified to find that the wimp slot taken is no larger than that taken by version 2, even although there is more functionality in the new version. The first test was to load a large sheet created in Eureka 2. There were no problems here, and I have found in further tests that every sheet I tried loaded faultlessly. The most obvious visual difference is that Eureka 3 now has the inevitable button bar. This is actually two alternative button bars, between which one toggles using a button at the far right hand end of each of the bars. The first bar brings such operations as saving, printing, cut, copy, paste, toggling grid lines on and off, etc, only a mouse click away (although I still find some of the key shortcuts are quicker). I find the alternative button bar, which carries a number of the more common "presentation" buttons, e.g. text alignment, number format, font, font style, font size, light grey cell background, and certain borders, is more useful. Once you have got into the habit of using the button bars, rather than the menus, some operations become much quicker, e.g. toggling row/column headings or grid on and off when exporting

the sheet. It is now very fast to outline, or underline, a group of cells. For example, to outline a block of cells, simply drag-select the block, and click on the border icon. The toolbar is attached to the edit window, which takes up the full width of the screen, even on a very large Risc PC mode. There seems to be a wide expanse of empty window in such modes. I would prefer it if the size could be altered, although this is a very minor niggle.

What I believe is the greatest enhancement is that it is now possible to export a worksheet directly into Publisher or Style. More importantly, clicking on the imported sheet with <ctrl> held down, loads it back into Eureka ready for editing. Thus OLE is fully supported. You simply save the sheet, or a selection, into Impression, using the Impression OLE option in the 'save as' dialogue box. My only comment here is that this option is right at the bottom of the list of save options, and you have to scroll the small 'save as' option window through the various Lotus and Excel options each time to get to it. I have demonstrated the OLE editing to a couple of postgraduates who are currently preparing their PhD theses using Acorn systems, with Publisher and Eureka 2 and so on, and from their response, you would have thought I was giving them manna from heaven, or perhaps a free supply of McEwans Export! Multitasking Publisher and Eureka is fine on a 10 Mb Risc PC, but memory is tight on an older A series 4 Mb machine running such little excesses as Acorn's Newlook, a dustbin, SparkFS and Menon! However, it can be done, and for those who regularly include "live" spreadsheets within Impression documents, life will now be so much simpler. For me, this one facility will make it worth the upgrade cost.

There have been improvements to the charting facilities. In particular, a chart can now be embedded into the spreadsheet, rather than having to be in a separate window. There is a new chart dialogue box which simplifies the production of the chart. An embedded chart can be edited by clicking on it with <ctrl> held down. I think this is a much more satisfactory way of handling charts in a sheet, although the previous method is still available should you prefer it.

There have been no significant changes to printing sheets. There have been some bug(?) fixes. For example, in Eureka 2, although you could display borders of differing line thickness, and double line borders, on screen, I was never able to get such borders to print correctly. The new version does now print all the border options correctly. There have also been improvements made to headers and footers. These can now be of different customisable size, and a new dialogue box, accessed from the page setup dialogue box, makes it an easier process to left, right and centre justify parts of the header or footer. The font style can also be changed.

One omission I find infuriating is that there is still no print preview facility, so you still have to print out a multipage sheet to find out where the page breaks are going to come. In Excel, against which Eureka is often judged, there is a preview facility, so you can see where page breaks will come, and easily select particular pages to print. In Eureka, printing is now done in the background, so one can carry on multitasking while a large sheet is being printed.

There have been a number of other changes to improve the general presentation aspects. It is now possible to import a graphic, e.g. a drawfile, sprite, or Artworks file. This allows the incorporation of logos or whatever to enhance the sheet. Such graphics can be rescaled, copied and pasted and so on, but obviously cannot be edited. A new dialogue box allows you to change the border, including drop shadow effects, or background of a graphic.

One feature that I have not yet tested is the ability to import and export sheets in Excel 3 and 4 format, retaining much of visual aspect of a sheet. For some users this is very important. Indeed, in our department, I am one of only two academic staff who have stuck with Acorn, in the face of much adverse comment. Most other academic staff use Apple Macs of various vintages, and Excel 5 is the preferred spreadsheet. I intend to try some file transfers between the two systems in the new year, and will report in a later issue. To date, I have always managed to do the very limited amount of file exchange I find necessary using ASCII files. (The main problem experienced by Apple users seems to involve the File Exchange program which reads and writes to MS-DOS discs and gives them no end of problems.) Here, Acorn users are spoilt, being able to simply insert an MS-DOS disc in the drive and then click

on it, or drag files to or from it, as if it were a native disc!

I hope to update this initial report once I have had a few weeks of use out of Eureka 3. I should be grateful for any feedback from readers on the new version of Eureka.

How to contact me

My postal address is Chris Johnson, 7 Lovedale Grove, Balerno, Edinburgh, EH14 7DR; I can also be contacted by e-mail as checaj@uk.ac.hw.vaxb if you have access to JANET.

I am happy to receive anything in connection with spreadsheets, hints or tips, macros, problems, solutions to problems, or just requests for help. What would be of interest are examples of unusual uses of spreadsheets. A

SCSI Card Compatibility – Update

Jim Nottingham

The initial cut of the SCSI interface compatibility survey (8.2 p57) seems to have been well-received and has triggered large batches of reports from readers and manufacturers. As a result of all this invaluable help, a number of gaps have been filled and, numerically, the database has more than trebled in size. Almost without exception, the new data has tended to confirm the initial findings, significantly improving the general level of confidence. I was delighted to hear four readers' problems had been sorted out as a result of advice contained in other contributors' letters (Stop Press: make that five...). This is exactly what had been hoped for and perhaps the expanded data might provide further clues. As the man says, it's good to talk.

The database

The updated table is presented in the same general format as before so please check with the original article if any explanation is required. In addition to readers' experiences, Alsystems ("A") have advised on which interfaces the listed NEC CD-ROM drives are known to work, provided the CDFS is updated to v2.20 or later. Similarly, David Pilling ("P") has provided a wealth of data based on his experiences in devising Twain drivers for various scanners.

My very grateful thanks to both these organisations and to the 40+ readers who have supplied data in addition to all the detailed advice, which I will try to summarise in the rest of this article. While we are in eulogy mode, could I also commend Dalriada Data Technology for their TableMate2 application (8.4 p8), used to present the table. Keeping it up to date as the data came in was an almost daily task and showed TableMate to be a very stable, user-friendly and productive tool; highly recommended for anyone with table-making requirements.

The SCSI cards

More interfaces have appeared on the list and new data on individual manufacturers' products are as follows:

• **SCSI II** – The Cumana SCSI II card is now generally available. It is compatible with all Acorn machines which will accept a standard podule but will provide the enhanced SCSI II performance only in the Risc PC. Readers have reported some configuration problems with software solutions and Cumana are said to be determined to make their cards work with everything. The Pioneer CD-ROM is not yet supported but a driver is in the pipeline. Both Alsystems and Castle Technology have SCSI II interfaces in preparation which are scheduled for release in early-1995. Availability will be confirmed through the Products Available column. *(Provided the two companies in question inform send me details when they **are** available. Ed.)*

• **Mini-podules** – More interfaces for the A3000 series of machines have been listed, although user-reports have been received only for the Cumana card. Despite it being 'only' an 8-bit interface, readers seem to be very happy with its performance.

• **Atomwide** – There was a record of successful use of the external SCSI/Printer interface to run SyQuest removable cartridge drives from an A4. *(We use one on an A3010 in the office. Ed.)*

• **Castle Technology** – In addition to supplying and supporting the ex-Lindis/Lingenuity cards,

SCSI Card Compatibility – Update

SCSI Devices and Cards			Acorn	Aleystema	Atomwide	Castle T	Castle T	Castle T	Cumana	Cumana	Cumana
	Type		16-bit	SCSI II	Mono/Printing	8-bit	16-bit	SCSI II	8-bit	16-bit	SCSI II
	Revision		1.10			2.56	2.56			1.21	2.00
	CDFS		2.21	2.21		2.21	2.21		2.21	2.21	2.21
	Installation		Std podule	Risc PC	Parallel port	A3000 etc	Std podule	Risc PC	A3000	Std podule	Risc PC
	External Device Connector		Centronics	50-pin Header	25-pin D-type	25-pin D-type	25-pin D-type	50-pin Header	25-pin D-type	25-pin D-type	50-pin Header
Hard Disc Drives											
Make	***Model***	***Capacity***									
Conner	CP30080E	85M									
Conner (as in A540)	CP30100	116M	✔✔							P	
Conner	CP30200	?									
Conner	CFA340S	327M							✔		
ETC	?	49M									
Frog	A100-K10	100M									
Fujitsu	M2681S	252M									
Fujitsu	2622FA	330M									
HCCS	Ext-48-S	.5M									
IBM	H3171	163M									
Maxtor	LXT-213S	203M							✔		
Maxtor	7345	329M									
Morley	Cheetah	100M									
NEC	D3855	100M									
Oak	HDEXARC45	46M									
Quantum	105S	100M							✔*		
Quantum	LP120	116M	✔								
Quantum	ELS170S	163M	✔							✔	
Quantum	LP240S	234M								✔	
Quantum	LPS270S	258M									
Quantum	LPS340S	327M									
Quantum	LPS525S	502M									
Quantum	LPS540S	516M									
Rodime	RO3000T	43M									
Rodime	RO5000S	101M									
Seagate	ST157N	46M									
Seagate	94221-209	170M									✔
Seagate	ST3283N	248M	✔								
Seagate	ST3390N	328M									
Seagate	ST3550N	435M	✔								
Sony	SRD2040	40M									
Cartridge Drives											
Make	***Model***	***Capacity***									
SyQuest	SQ555	42M	✔✔✔		✔				✔		
SyQuest	SQ5110	85M	✔								✔*
SyQuest	SQ3105S	105M								✔✔	✔
SyQuest	SQ5200	200M	✔		✔						✔*
SyQuest	SQ3270S	256M	✔		✔						
Floptical Drives											
Make	***Model***	***Capacity***									
Insite	1325VM	21M									
Mag-Optical Drives											
Make	***Model***	***Capacity***									
IBM	MD3125A	121M									
Fujitsu	M2511A	121M									
Tape Streamers											
Make	***Model***	***Capacity***									
Exabyte	EXB-2501	750M	✔*								
Exabyte	8200	?							✘*		
Tanberg	TDC 3800	525M?							✔*		
WangTek	5525ES	200M? *									
CD-ROM Drives											
Make	***Model***	***Capacity***									
NEC	M'Spin 211		✔								
NEC	M'Spin 3Xi									A	✔*
NEC	M'Spin 4Xe									A	
NEC	M'Spin 4X pro									A	
Pioneer	DR-U104X										✘*
Sony	CDU-541/561	265/274M								✔✔✔	✔
Sony	CDU-8003A										✔*
Toshiba	XM-3401	475M	✔								
Toshiba	XM-4101	470M							✔	✔	
Scanners											
Make	***Model***										
Canon	IX-3010		✔✔							P	P*
Canon	IX-4015		P							✔	✔✔
Epson	GT6500		✔*				P			P	P
Epson	GT8000		✔				P			P	P
Epson	GT9000						P*			P*	P*
Hewlett Packard	Scanjet II		P							P	P
Integrex	CS300									P	P
Microtek	ScanMaker II									P	P
Mustek	Paragon 600						P			P	P
Mustek	Paragon 1200						P			P	P
Nikon	CoolScan						P			P	P
Relisys (Watford Elect)	ArcScan 3420										P

HCCS	HCCS	Lindle/Ling	Lindle/Ling	Lindle/Ling	Morley	Morley	OAK	Serial Port	Serial Port	Serial Port	Serial Port
16-bit	Ultimate	8-bit	8-bit	16-bit	Cached	Uncached	16-bit	8/16-bit	Turbo-SCSI	QuadFS-Opt	Eco SCSI
	1.10		2.60	2.54	1.17	1.17	1.36	1.00		1.00	
	2.20	2.21	2.21	2.21	2.21	2.21	2.20			2.13	
Std podule	Multipodule	A3000 etc	Std podule	Std podule	Std podule	Std podule	Std podule	Std podule	A3000 etc	Std podule	Econet skt
Centronics	Proprietary	25-pin D-type	25-pin D-type	25-pin D-type	Centronics	Centronics	50-pin Header	50-pin Header	Centronics	Centronics	None
			✔								
					P		✔*				✔
							✔*				
							✔				
							✔				
						✔*					
							?*				
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	✔					✔*	✔*				
	✔				✔✔✔*	✔*					
				✔		✔					
			✔		✔	✔✔	P*			✘	P
	✘				P	P	P*				P
					P+	P	P*				
					P+	P	P*				P
					P*	P*	P*				
					?*	✔✘*					P
											P
											P
											P
					P	P	✘*				
							P				

Castle Technology are marketing their own interfaces.

• **HCCS** – Reportedly, the HCCS 16-bit card is not compatible with Risc PC and unlikely to be updated.

• **Morley** – Although Morley have said their cards should be used only in podule slot 1 of the Risc PC, one reader recorded successful use in the top slot (3) of his ACB45. Almost every user complained of computer crashes if Toshiba CD-ROM or SyQuest removable cartridge drives were accessed when a CD or cartridge was not loaded (see original article for details). Morley are aware of both these problems and, although they have yet to implement a fix for the SyQuest problem, they say the CD-ROM problem has now been resolved. However, one reader reports anomalies with the updated module.

• **Oak** – Sadly, this popular card is no longer marketed by Oak Solutions but a CDFS upgrade is available from them for £25 plus VAT. Note that this upgrade does not support PhotoCD. The good news is that IFEL are hoping to market and fully support the interface in the near future so, again, details will be given in Products Available as soon as availability is confirmed. *(As long as IFEL send me the relevant details. Ed.)*

• **Serial Port** – The current status of the various State Machine interfaces is that the Alpha-series standard cards (including those with the HD interface) and the EcoSCSI card are discontinued but CDFS updates including PhotoCD support are available from them for £35 inclusive of VAT. The TurboSCSI card for the A3000/3010/4000 is discontinued but remaining stocks, with the latest version of CDFS, are available for £75 inc VAT.

SCSI devices

The reported range of SCSI devices in use has increased considerably and, in general terms, user-comments mirror those from the first batch.

• **Quantum drives** – There were further reports of problems with Quantum hard disc drives, but only at the lower end of the capacity range, i.e. 125Mb or less (there is also a record of identical 'broken directory' symptoms with a 116Mb IDE drive).

• **Rodime** – There is still some confusion over the model numbers of the Rodime hard disc drives. The 43Mb drive looks to be RO3000T but the 101Mb drive is variously reported as either RO3000T or RO5000S.

• **Cartridge drives** – SyQuest came in for some good words on the standard of their sales and technical support (see the Factfile for contact details). One bit of info I hadn't seen elsewhere was that SyQuest drives are supplied with a 2-year warranty and cartridges come with a 5-year warranty.

• **Floptical/magneto-optical drives** – It was pointed out that I had grouped two quite different variants of magneto-optical (MO) devices under a somewhat inappropriate heading. I go along with this and have now separated the two types on the revised table. The 'floptical' drives can read and write to floppy discs in the conventional manner but use a laser system to read/write to special 21Mb capacity discs. There are reports of configuration difficulties and operating limitations (6.11 p35; 7.4 p16; 7.6 p21) and Morley, for example, no longer supply these drives. The other type uses discs rather like CDs and, again, use a laser for reading and in the writing process. The reader-reports of the 121Mb units mention few problems but I am aware of considerable operating difficulties with higher-capacity variants (up to 650Mb) in the PC world. Double-sided drives (1.3Gb!) are just becoming available for Acorn machines.

• **Tape streamers** – Of the four units reported, three are working well but needed specific configurations to get them to run. The fourth is reportedly not working. Details are available from me.

• **CD-ROM drives** – In general, once users had upgraded their SCSI cards to install the latest version of CDFS (v2.21), virtually all the CD-ROM drives then reportedly worked well. There were two reports of the PC Emulator support disc being used successfully to enable PC-format CDs to be read.

• **Scanners** – The data listed for the Integrex, Mustek and Aries/Relisys scanners are based on the suppliers' recommended interfaces for these devices. Castle Technology market the Mustek Paragon series scanners. Everyone using David Pilling's Twain drivers seems to be happy with them and they are bundled with many scanner packages.

Termination

Readers' reactions to the original cut of the survey revealed considerable confusion over correct termination and I understand Dave Webb's article in Archive 8.3 p67 has corrected a number of misconceptions. Since then, a 'gotcha' affecting only the Acorn interface has become apparent; there are no terminators on the card. So, if the Acorn interface needs to be terminated (e.g. if it is being used in a Risc PC/A5000 where the internal drive is an IDE device), this is done by plugging a terminator into the unused, internal SCSI socket. Unfortunately, the terminator (Acorn Part No. 0173,015) may be difficult to obtain. An alternative method is to fit a 'through' terminator, externally, to the Centronics socket at the rear of the interface. This item looks like a free-standing terminator but with an extra socket on the back for the normal SCSI cable leading to other devices. Mine is stamped 'Micronet Technology Inc. MI0001'.

Sales support

Wow! A large portion of my postbag has been taken up with this subject, varying from fulsome praise to somewhat unprintable criticisms. A number of manufacturers and retailers attracted comments at both ends of the spectrum and such inconsistencies make it very difficult to present a balanced summary. So I'm going to chicken out of making specific recommendations this time and merely refer readers to the more general advice given in the first cut.

The postbag

Once again, my sincere thanks for all the reports received to date. A number of readers are planning to add further devices to their systems and have offered to send details of their experiences, so I'm anticipating the database will keep expanding, particularly in the area of CD-ROMs and colour scanners.

Of necessity, the table is reproduced at less than optimum size so, if you have problems deciphering the detail, by all means send me your name, address and return postage and I'll send you an A3 print (I'll supply the large envelope). By the same token, keep the requests for reports coming. Even if the combination of interface and device you are considering does not feature on the table, send me a note anyway. It may be that future reports will cover it and, in that event, I will pull your request out of store and get a copy in the post to you. Jim Nottingham, 16 Westfield Close, Pocklington, York, YO4 2EY.

Risc PC Column

Keith Hodge

Monitors

I have received a number of letters referring to the loud noise made by some of the 17" Acorn monitors when they are first switched on. The noise is reported to be due to the magnetic screening at the rear of the CRT flexing when the switch on degaussing action takes place. This screening seems to be more flexible on some monitors than others. It is however, nothing to worry about.

TWO floppy disc drives!!!

Hurrah!!!!! There is now a way to have *two* floppy disc drives on your Risc PC. The very clever people at H.E.C. have produced the solution to all my problems. 'Actilead' is a straight forward adaptor lead which contains some logic (powered from the disc drive power connector) and which is simply fitted in place of the existing existing ribbon cable. The adaptor also provides the required power connectors – simply excellent! (The only thing to note, is that the second drive must remain linked as drive 0, because the logic looks after drive identity.) Actilead costs £19.99 +VAT + carriage from HEC or £25 inclusive through Archive.

Software information

Elliot Hughes has sent me a very detailed series of documents which contains information both on booting the machine and also the new features in RISC OS 3.5 that he has discovered. I will try and use some of the information and report on my progress. In the meantime, I have placed it all on the monthly disc so that anybody who requires a good insight into the machine will have a good excuse for buying the monthly disc.

Thank you to all the readers who rang me to offer a copy of Zap (v1.2) which works on the Risc PC.

There has been more feedback on this item than any other. Even Memphis did not get quite this level of response. Zap undoubtedly represents the standard to which other text editors must look and I would suggest that people who find it as useful as I do, will follow my example and send the author a small donation when registering to encourage him to produce further PD of this excellent standard.

Software compatibility

I now have David Pilling's (©Miles Sabins) BubbleHelp2 application *(reviewed on page 79)* which is, for me, a further improvement on the original as it addresses one off my pet likes, which is that pressing <f1> turns the help bubble on, so when I demonstrate it to my friends who are PC freaks they can no longer complain about the lack of a standard help function key for all software. Well done, David and Miles. Now all we need is for all application writers to fully support it.

Hardware and software news

Bernard Veasey has responded to my request (8.3 p79) for the module versions in use with his Vertical Twist(VTI) 16 Bit SCSI interface (v1.01 Oct 92). He also advises that he has now added a CC-supplied, Canon IX4015 colour scanner and uses David Pilling's Twain (v1.05) with PhotoDesk (v1.21) and this combination is working well. Also of interest is further confirmation that the Laser Direct Qume *does* work when used with v2.63 software

I have purchased a Canon IX4015 from Irlam Instruments. This package is provided with their cProi-Mage software but, at the moment, I am not using it as there are a number of complications when used with my boot sequence on the Risc PC. The main problem is caused by the software refusing to initialise unless the scanner is turned on and as we probably only scan two or three documents a day, it is normally switched off. This, of course, causes real problems when you have set the computer to boot the application on startup, as it does not load. This is compounded by the fact that even if the scanner is switched on, my version puts up a copyright message which you have to respond to by clicking on "Yes" in the copyright window. However, the window is buried under the window produced when Prophet is loaded, and so, of course, as soon as my wife clicks the mouse on anything, cProi-Mage interprets this as a "No" and promptly dies! *(Why not just put cProi-Mage on the pinboard so that it is available when required? Ed.)* This leads to a very confused wife when she goes to use the scanner but is unable to find the required icon on the iconbar! However, all is not lost, as I have David Pilling's excellent Twain (v1.05), ImageMaster (v1.03 16 May 94) and ArcFax (v1.13 14 July 94) applications and these work well and, most importantly, do no more than complain that the "Scanner is not responding" when you attempt to scan. *Much* more user friendly. That said, the cProi-Mage software is very user-friendly once loaded, and can be used by anyone with any RISC OS experience. The rubber banding used to allow selection of the image portion required is particularly good.

Readers comments

From Doug Tuddenham:

'There is one subject which I cannot recall being covered with any of the operating systems and that is the bugs or "features" which have been cured by the latest OS. Most of us have large collections of patches and work arounds that we have acquired over time and it would be nice to know which of these can be dispensed with. Unfortunately, as with the original printer problems on the Archimedes, checking them out, in most cases, requires numerous tweaks followed by rebooting of the machine and this could prove very time-consuming. (Would one of our more technically-minded readers like to co-ordinate this?).

Following on from that, I have noticed a very lax method of referring to versions of the Operating System. OS2 is fair enough and so is OS3.5 with reference to the Risc PC but OS3 is not so clear. Does it mean OS3 only as fitted to the A5000 and its attendant bugs, does it stand for OS3 *and* OS3.1, or OS3.1 only, or does it cover OS3xx? I must admit to being very confused.' *(We reckon OS3 refers to 3.1x, i.e. NOT 3.0 which, as far as Acorn are concerned, does not exist. M.H.)*

From Robin Hampshire:

'I too have found that the !Boot application on the Risc PC contains a lot of substance (8.3 p79). Perhaps as a less experienced computer user than yourself, my more superficial delving into its innards

have produced rather simpler solutions to the problems you have encountered. What is certainly true is that there now seems to be several different ways to achieve precisely the same results'.

1) Including applications in the !Apps filing system can also be achieved quite simply by placing the applications concerned in the Apps directory in $. This also has the advantage in that if you need to access the application innards for any reason then there is no need to remember whether it is stored within a business, comms, utility or whatever directory. I know you can't access the program files from the !Apps icon, but if they are all in the Apps directory then they are quite easy to find.

2) Any applications that you want on the iconbar at start up can be told to Filer_Run in the !Boot.Choices.Boot.Tasks.!Boot file, which is almost equivalent to the OS 3.1 !Boot file. Then the application itself can be wherever you want it to be. So, leaving Edit in the Apps directory and including Resources:$.Apps.!Edit as a line in !Boot.Choices.Boot.Tasks.!Boot will leave Edit where others expect it to be. This technique also allows your Prophet file to be loaded without having to write a separate !Obey file for it.

Robin's comments, for me, actually crystallize something on which I wish Acorn would make a definitive statement. That is the recommended method of defining the desktop condition when the machine boots. We are not all programmers – many of us are just users. We want to be able, when adding a new application to the hard disc, to be prompted by the installation software as to whether the application is needed on the iconbar at bootup, or is required to be available in the Apps window on the iconbar, etc. Now for this to happen, the software writers have to have guidelines. Do these exist? If so, can somebody (Computer Concepts?) explain them and I will put the explanation in the column for all to know. This has to happen if Acorn is to capture more of the "users" market, i.e. the type of people who buy an IBM 486 PC and expect *and get* software which installs itself just by booting the installation disc and the user responding to a few well-hinted questions.

Next is a letter from David Webb, which I feel is a fair measure of the average new owners learning curve:

'I have been an Acorn owner since 1986 and still have a 1987 A410/1 with ARM 3 RISC OS 3.1 which is still going strong. My daughter has an Amiga 1200, which serves her purpose and I would describe myself as a competent PC user.

I purchased my Risc PC600 ACB45 in May 1994 from my local Acorn Dealer – Computer Depot in Glasgow. Within 10 minutes of unpacking the computer, it was up and running and I encountered no initial problems.

The first things that impressed me were the lightness of the computer and the ease with which you can open it up (I cannot resist tinkering I'm afraid). Also the fan is much quieter than on the Archimedes.

The length of cable on the keyboard and mouse is excellent and I have been more than pleased with the monitor performance. I have a Microvitec Cubscan 1440 on the Archimedes and after downloading a monitor definition file from Arcade BBS, I decided to try the monitor for a few days with no problems.

I have not carried out any extensive testing on the monitor, but one advantage with the 1440 is that you do not get any letter box modes when using mode 15, etc. *(Matthew Newton has just sent us a non-letterbox definition file for AKF60 – on the monthly program disc. Ed.)* The one downside of the 1440 is that, when using 1024×768 in 256 colours, there is a perceptible flicker on the screen. I have never encountered this with the AKF60.

Other hardware that I am using, all of the below were swapped from the Archimedes: Watford electronics hand scanner, the original version not the MK II – no problems and is very fast, HCCS – HiVision digitiser – no problems (now upgraded to Vision24) and Aleph One 386/25 PC card – no problems except with CD-ROM – see below.

Most of the serious software I possess has been upgraded and works with no problems. Including the latest versions of Hearsay II and ArcFax and many others too long to list.

The main problem is with games, most of which I cannot get to work: almost all of the 4th Dimension (some older games work) – they will supply a list of

compatible programs if you phone them; Wonderland, Mig-29, Interdictor 1 & 2, Zool, Cyborg, Quark, Alderbaran (even with a fix module from Arcade BBS), FRED. This is not a detailed list, but I will supply one if anyone asks.

A recent addition has been a Cumana 300iA CD-ROM drive which comes complete with ProArtCD and an upgrade option to ProArt 2. Although I am no graphic artist, it appears to work very well and meets my own needs.

1) The 300iA has a direct link to the motherboard for sound output through the internal sound system. The instructions tell you to connect to LK14 and gives detailed instructions of its location. unfortunately my motherboard did not have this link.

I phoned Acorn Customer services who told me to contact Granada and they replaced the motherboard within 24 hours and with no charge – problem N°1 solved.

2) I attempted to use the CD-ROM with the Aleph One 386 card and failed miserably.

I used DOS versions 3.2, 3.3, 4.0, 5 and 6.0. I tried using A1CD.SYS supplied by Aleph One and three different versions of MSCDEX. I even tried using PCEmulator CD drivers and the best I could obtain was no recognisable CD drives attached. I spent three days and used every combination of setup that I could think of within the Autoexec.bat and Config.sys (including a few which Cumana and some Arcade BBS users suggested).

Cumana were extremely helpful but did not find a solution. The gentleman I spoke to could not actually test any of his suggestions as he had no access to a Risc PC! (I do not know your name but thanks for the assistance anyway!)

I had previously decided to sell the 386 card which I have now done, so I did not cure the problem.

I decided to upgrade to the latest version of PC Soft which cost £10.57 from Acorn Direct and had the CD drive working within 10 minutes.

I have not gone into great detail as I only wish to give potential Risc PC owners a taste of some of the experiences they may encounter. I have been extremely pleased with the machine so far and was not surprised by the games which do not work.

I am well aware that, as games programmers push specific models of computers to their limits, there is always going to be a compatibility issue. Again this is not meant as a criticism of programmers but only to warn potential owners not to expect every item of software they possess, to work'. *David Webb, Eastfield, Cumbernauld.*

Matthew Hunter at NCS has had similar problems. He reckons that the Aleph One card needs to see the CD-ROM ***configured*** *whereas the Cumana application will put a CD-ROM on the iconbar even if CDFS-drives is configured to 0.*

Wish list for next Risc PC / New issues of Basic

Can we have slots in the back to take IBM expansion cards? The word is that big things are happening in this area. (Do any of the people involved in this area want to send me some clues for the column?)

Gripe of the month

None! The spirit of Christmas must be upon me as I write this! (17.12.94)

Question of the month

From Herbert: I have been investigating the MsgTrans module after being shocked to discover that the RISCOSLib msgs commands do not use it. I have built a new library which does use it, but since that is not a Risc PC issue, I will not expand here. The point is that if MsgTrans cannot find a message token in the program's Messages file it looks in "Resources:$.Resources.Global.Messages". I have compared the copy of this file on my two machines and have discovered that the first 52 lines of the Risc PC version are the same as the entire contents of the RISC OS 3.1 version. The 3.5 version then continues for nearly 500 more lines of tokens and control characters.

Questions:

1) What are these other tokens for?

2) What format are the messages in?

3) Are they any use to programmers?

4) If so, will there be a patch to put them on RISC OS 3.1 machines?

Have a look at the file $.Apps.!Help.Messages (you need to go through the disc icon rather than the

Apps icon) and look at the tokens starting with a 'T'. These describe characters which can be used to make help messages shorter. For example, a help message containing the sequence '\S' will have it replaced with 'Click SELECT to '. If you look through some Messages files you will see numerous examples. The equivalent file in 3.1 finishes with 'Ta' whereas the 3.5 file has an additional 175 abbreviations.

Questions

5) Why do the new tokens appear in the file twice?
6) Will there be a patch to put them on RISC OS 3.1 machines?

Tailpiece

Could contributors who send material in Style format and who are going to use a table in the document, please only use one of the fonts supplied with the machine as otherwise, if I have not got the font they have used, it gives me all sorts of problems. This has recently stopped me using one contribution. I note that Brian Cowan also commented about similar problems in his December column.

As usual, I can be contacted by letter at the HES address on the back page, by telephone after 7p.m. or by Packet Radio from anywhere in the World, as GW4NEI@GB7OAR.#16.GBR.EU. A

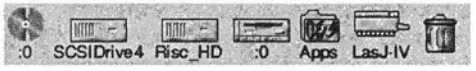
Risc DOS Column

Simon Coulthurst

The latest news from Acorn (23rd November 1994) was that the ASIC's had arrived and were undergoing testing. But, it was likely to be late December before an evaluation copy would be available. As I write (early December), I have no further news and so another month must pass without anything to report about the co-processor. *(I've arranged for Simon to go to Acorn to pick one up on 23.1.95! Ed.)*

SCSI shenanigans

My SCSI card is an uncached SCSI type 1 card from Morley Electronics. It came with the Syquest drive I ordered when purchasing my Risc PC.



I subsequently added an internal NEC Multispin 3xi CD-ROM drive and attached my Hewlett Packard ScanJet IIcx to the external connector on the back of the card. Carefully following the instructions provided with the SCSI card (and a much easier to understand explanation provided by NCS), I removed the terminators from the CD-ROM and the SCSI card itself. These devices were both in the middle of the SCSI chain. I made sure the Syquest and the Scanner were both properly terminated – being the first and last devices on the SCSI chain respectively. I turned on the computer and ran the SCSI utility program to configure the SCSI interface. Following this my computer rebooted.

The Syquest worked, the CD-ROM worked but the scanner absolutely refused to play along. I tried swapping cables – no good. I read all the manuals several times. I even tried the scanner on a PC to make sure it worked – it did. I then wrote to David Pilling (whose excellent ImageMaster and Twain driver I was using), he replied swiftly with a couple of suggestions based on my description of the problem. Unfortunately, neither solved my problem. I finally contacted Morley Electronics (I should have tried them first) and asked for their help. They didn't know, but had I tried removing the terminators from the scanner and reinstalling those in the SCSI card? I did just that, and of course, it worked first time! I have learned two lessons. Firstly, always check with the people who make the product! Secondly, SCSI interfaces are a bit of a black art as far as configuration goes.

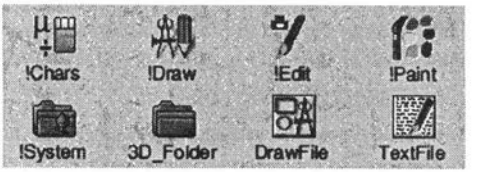
My system now works fine even though its termination directly convenes the basic SCSI rule of terminating the first and last devices in the SCSI chain. Go figure!

MegaLook!

I received this utility on the second Public Domain CD-ROM from the DataFile. Basically, what it does is modify the look of your RISC OS desktop. By choosing various different designs, you can make your desktop look like other computer systems. Windows, NeXT, Unix etc. My main reason for using it, however, is that it provides an attractive set

of 3D style icons for the left hand side of the icon bar. The Risc PC already has what I consider to be an attractive 3D-style to the windows, including the scroll bars, buttons etc. Yet, for some reason, Acorn chose to stick with the boring flat iconbar icons.

!MegaLook provides new versions of these as well as some new icons for the standard Acorn programs, !Paint, !Draw and !Edit as well as their datafiles. In fact, the new icons for !Edit and !Paint are particularly nice as they look as though they are etched into the surface of the desktop itself. These have all helped to brighten up my desktop. The version of !MegaLook as provided on PDCD-2 would only install these icons at the same time as replacing the window scroll bars, buttons etc. This was not quite what I desired as I was quite happy with the standard scroll bars and other window furniture. I wrote to Matthew Gray explaining this. By return of post I received a new version (1.10) with the ability to keep the existing scroll bars but replace all the icons. Perfect!



I highly commend this program to any Risc PC (or Archimedes) owner wishing to give his desktop that finishing touch. A

Morph

Andrew Rawnsley

Morpheus from Oregan Software Developments, and Rephorm from Oak Solutions have been monopolising the Acorn morphing market for over a year now. However, this new product from Mycroft Software aims to challenge their dominance, but will it be able to hold its own against such well established competition?

A little history

For those not familiar with the term 'morphing', it is a method of blending one image into another, by gradually changing parts of the first into the second. The method has been used to great effect in films such as Terminator 2 (the classic example), but also in many modern TV adverts. Morphing is one of those processes only feasible on a computer, so the success of the technique in films and adverts has led to many packages appearing on all computer platforms, most notably on the Amiga.

Practical uses of morphing packages

For those of us who are not involved in movie production or advertising, morphing utilities tend to fall into two categories: those which can be used successfully in multimedia and !Replay movie editing, and those using non-standard file formats so that inclusion in the above areas is impossible. Unfortunately, Morph fits into the latter category, rendering the program little more than a toy.

I should point out that the quality of Morph's output is not in question, simply that, by using his own file format, the author has precluded compatibility. Had there been a Replay file export option, the program would have been of some value to the user, but as it stands, once you have morphed a picture of your best friend into his mother, and turned your pet cat into a rottweiler, there is little more that the program has to offer.

Features

If you can cope with this limitation (you can output sprites of individual animation frames), you will probably be pleased by the rest of the program. It can cope with 16 and 32-bit sprites on the Risc PC and 16 and 256 colour sprites from older machines. You can alter the rate at which one sprite morphs into the other and use sprites of different dimensions, provided they have the same colour depth. The mesh used to map points on the original image to those on the destination works well and the nodes in the mesh can be colour-coded – useful on large images.

Unfortunately, I found the program rather difficult to use, not helped by a poor manual without an index. In fact, the manual hadn't even been stapled together, but then there was no packaging either, so this is presumably because it is a review copy.

I couldn't work out how to access the mesh design window, and the references to mesh editing in the

manual, following directly from loading images, told me to 'see later'! My problem was that the main window had no menu, so you had to click on the small picture of the required image, confusingly placed in an indented 'display only' icon which one would not normally click on. This, to me, is bad interface design.

Producing the morph

Once you've set up your images and meshes, click on the Morph button and away it goes. I was reviewing the package on a Risc PC and, given the power of the machine, I would have hoped for a faster rate per frame. I limited myself to small morphs of 5-10 frames simply because it seemed so slow.

However, this doesn't produce the morph, just a selection of frames which must be joined together with a second application, before viewing can take place in a third!

Conclusions

Although Morph only costs £15 inclusive (and only £10 to owners of Mycroft's HQ Tracker system), I suggest that you look carefully at the competition before paying out your money. Had the application been released as PD, it would have received much praise but, at £15, it has to be treated as any other commercial program and, as such, it does not fare too well. A

Wavelength

Andrew Rawnsley

Wavelength is the latest release from Tom Cooper – the man behind Hamsters, Gyrinus 2, Ixion, Cycloids etc. Published by GamesWare, Wavelength represents Tom's first foray into arcade shoot'-em-ups. This may be because this genre of game is often frowned upon by the *intellegencia* of the computing world, but a well-produced one has as much right to shelf space as any other entertainment product.

What's it all about?

One thing that makes Wavelength different from many other games is that no attempt is made to provide a plot. This should be regarded as a Good Thing, since reading another 'the aliens are invading' storyline will make most players ill! To be frank, the aim in Wavelength is to destroy as many targets, aerial and ground-based as possible before dying or moving on to the next level.

You pilot your circular fighter around a large map, controlling the direction of flight by rotating your ship and firing your thrusters. This gives greater control than in many comparable games, and certainly a greater sense of exploration and discovery, keeping the game interesting.

Graphics

Compared to Tom's earlier creations, the graphics in Wavelength are much improved. Previously, Tom's forté has been cartoon-style graphics, but Wavelength has a much better futuristic, technological appearance. There is still the usual detail, from attractive craters on the planet surface to the carefully drawn shadows of aerial targets. I received an interesting comment from an Amiga owning friend – 'the graphics look good, for once'. Perhaps not the greatest advert for home-made games, but certainly a selling point for Wavelength!

Enhancements

As with almost every shoot'-em-up, Wavelength features the almost compulsory bonus, the Power Up. The interesting thing about Wavelength is that upgrades come in four different guises.

First there is the weaponry bonus. This changes colour as it moves, with each colour representing a different main weapon. Although you can only have one of these, collecting the same coloured tokens allows you to build up the weapon's power, from 6% up to 100%.

The second power up gives you a drone on the side of your ship. Again this changes as it floats around, but this time between a gun drone and a missile drone. Increase the drone's power to more than 70%, and a second drone will appear.

Sometimes, destroying a target will reveal a shield bonus, which will help you survive for a few more seconds. The final bonus is the cluster bomb (often known as a smart bomb). This takes the form of a

large number of tiny bombs being jettisoned simultaneously from your ship, moving outwards and destroying all in their path.

Conclusions

I think another quote from our friendly Amiga owner is due here – 'I'm not too sure about... Hold on! What does this do? Wow! I wish this was out on the Amiga.' OK, 'nuff said!

Wavelength costs £19.99 from GamesWare or £19 through Archive. A

Pocket Book Column

Audrey Laski

Dunce's Corner

My Pocket Book has been back to Acorn for repair to the socket problem which was interfering with use of mains power; it was a great relief to get it back and cease to share the feelings of Ian Ford, of Stockport, who wrote of being "rather irritated and forgetful" in the month or so he was without his Psion Series 3A. However, I was somewhat alarmed, when trying to set up the A-Link to transfer back various files I had saved for memory clearance, to get a constant report of "Remote Device disconnected or switched off". After all, I had checked that the Remote Device was switched on with the correct baud rate, and that the A-Link was connected at both ends. What I hadn't spotted was that it was coming apart in the middle. Other users may, like me, have not been aware that it is possible for the part of the lead which plugs into the PC to work its way partially out of the serial interface linking it to the PB. As soon as it was pushed well in, the red cleared from the Pocket Book icon and I was back in business.

More about the A-Link

Graham Anstey, of Melksham, Wiltshire, who also uses an S3A, writes to observe that the A-Link works perfectly satisfactorily with this and with PCs as well as with the A310. To demonstrate the connectivity he printed his letter via the following (unnecessarily convoluted) route:

Psion –> A-Link –> PC
PC –> diskette –> Risc PC
Risc PC –> ZModem –> Linux (PC hosted Unix clone)
Linux –> TCP/IP –> Sun SPARC station
Sun SPARC station –> PostScript printer.

It's good to know that all this is possible.

John Woodthorpe, of Rugby, has discovered a tiresome oddity about the space occupied by directories when transferred directly from RISC OS and/or MSDos to the Psion Series 3A. It appears that the transferred directories use an unnecessary minimum number of bytes, on either of the big systems, which do not get compressed when transferring direct to a flash SSD. His solution is to transfer via a RAM disc and then use the S3A's own filing system to move the files to the SSD. Of course, it will probably take several RAM discs full to fill the flash disc. He uses DOS and MC-Link, since also the padding on DOS directories is smaller than on RISC OS. Those less richly endowed should, I suppose, use the M internal disc and PocketFS, though I haven't tested the gain in space this way. He comments: "It can be a bit tedious, and it needs a clear head to avoid accidentally deleting something in the wrong place, but it does save precious space on the flash SSD. I find it is necessary to use a PC partition, otherwise the truncation of filenames can cause problems when things are loaded back into the S3A."

More hardware matters

Peter Young, of Cheltenham, writes sadly about the ruggedness of the Pocket Book; his fell about three feet onto a hard floor and the main pcb fractured apparently irreparably: I say 'apparently' because "it proved impossible to discover from Psion whether a new circuit board could be obtained"; tired of waiting, he has acquired a Pocket Book II – first impressions later in this column. The fall was caused by the tendency of the Pocket Book to rise up in a jacket pocket when the wearer sat down; "let others who keep their machines in their pockets beware!"

John Woodthorpe of Rugby quotes 3-Lib on problems about batteries. It appears that these are sometimes caused by dirty connections (which can be cleaned with a piece of toilet paper) or the use of

undersized batteries which don't quite connect. There is also, however, a possibility of frayed or broken wires in the battery compartment. His own difficulties were solved by returning his S3A to Psion for replacement of the battery lead. He now gets 50-60 hours from a pair of Duracell batteries "depending on how often I use the A-link without plugging in the mains adaptor!"

For those in the vanguard

Peter Young is experiencing modified rapture with the Pocket Book II. He is pleased with the enlarged screen and improved fonts, with the distinct keyclick and with the very useful 'zoom out' in Abacus, but dissatisfied with the inadequate index of the manual and with the fact that, although the OPL Program Editor is included, the user has to buy a separate manual. (N.B. 3-Lib has a useful Cards file which gives the guts of the manual on a shareware disc.) He is using the program editor to edit his Spell dictionaries and is pleased to find that the global user dictionary has "the much more sensible name of Global.d$c" instead of the obscure old Sys$Dict .d$c. He finds that the new spell check works faster overall, though the scanning is still slowish.

He is particularly thrilled with the new version of Schedule, but has found it impossible to transfer his old Schedule files to it: "new Schedule files are in an /AGN/ directory, with a .agn extension. Renaming your old Schedule file with the correct extension, and then using the 'Open $' option on PocketFS to transfer the file to the /AGN/ directory on the Pocket Book II works, but attempting to load the file into Schedule gives an 'incorrect filetype' error... Does anyone know a way round this?"

His summary: "there is no doubt that upgrading is worthwhile if you can afford it."

Endnote

I wish I could afford a PB II, but I'm very happy just to have my old one back in good shape.

Times Tables

Denise Bates

Times Tables from Hazelnut Software provides practice in the tables from 2 to 12. It is applicable to National Curriculum levels 2-4.

The review was carried out on version 1.0 of the program using a 4Mb A5000 (RISC OS 3.1).

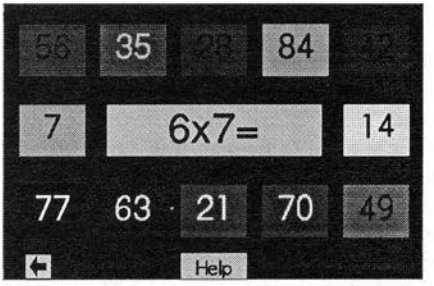
Installation

The program comes on six 1.6Mb discs. An instruction sheet is provided explaining how to install the program and which mouse buttons to use when operating the program. No further guidance is necessary as, once installed, the program is self-explanatory. It specifies that all six discs should be loaded to the hard drive and no problems were encountered during the installation.

Running Times Tables

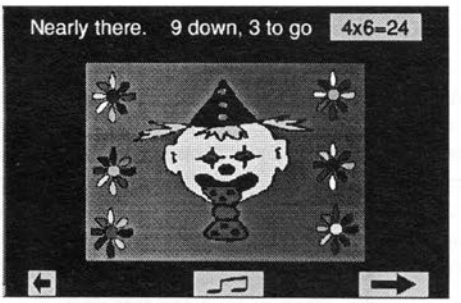
According to the instruction leaflet, it is only possible to use the program with a computer which has a hard drive, at least 2Mb of memory and which can read 1.6Mb discs. Running it from floppies is unacceptably slow, but I tried using a RAM disc and found that it ran acceptably from RAM disc and floppy. This point has been referred back to Hazelnut for their comments.

Times Tables has been created using the capabilities of the Genesis suite to the maximum. It combines beautifully coloured graphics with animated sequences and music. Once the program has been installed on the hard drive, double-clicking on the table of your choice installs it on the iconbar, the screen and backdrop change colour and an animated squirrel appears along with a box which instructs the user to click on it.



On doing so, you enter a further screen (see above) which shows all the answers for the selected table for

multiplicands 1 to 12. In the centre of the screen is a sum which is spoken. If the correct answer box is clicked on, the answer is spoken, the screen changes and shows a full-sized animated picture.



By clicking on the note box, an appropriate sound is made. When this has been savoured, clicking on the forward box returns you to the number screen for the next sum. This procedure continues until all twelve questions have been answered correctly at which point a 'completion of table certificate' is printed on the screen.

From a learning point of view, there were two things which I particularly liked about the authors' approach. Once a correct answer has been selected, it still remains live on the screen. This means that a pupil has to know the answers to complete the table; there is no question of being able to deduce later answers by guesswork or process of elimination. Secondly, if a child does not know the answer then clicking on the help box takes him through to a help screen. This explains what the sum means and illustrates it with bundles of sticks which can be counted if necessary to find the answer.

When you've finished running the program, quitting it returns the computer to its original settings.

Multimedia effects

This is what Times Tables is all about. Although the program is a drill and practice exercise, no child using it is going to think of it in those terms. My own children were spellbound and it was several hours before I could get them off the computer to have a look myself. The quality of the graphics is superb throughout and they have been well-designed to provide a theme for each table. The two times table has nursery rhymes. Others have animated stories, pictures of dinosaurs, illustrations of musical instruments, etc, etc. Of the people who have seen the program, everyone picked a different set of animations as their favourite which is a fitting tribute to the overall quality.

Criticisms

I am clutching at straws trying to find any criticisms. I would have liked the sound sequences to be slightly longer (but this, of course, demands more memory). When I printed out the certificate, it also printed the control buttons at the bottom of the screen. This might lead to a bit of scissor work with a fussy pupil. On the other hand, you can print the certificate in different sizes, either landscape or portrait.

The major problem with Times Tables is that, because of the volume of data, it is extremely memory hungry. Unfortunately, the need for at least 2Mb of memory means that it cannot be considered by schools which only have 1Mb machines or whose computers cannot read 1.6Mb discs.

Special Needs

As soon as I saw this program, it struck me as a potentially multi-functional resource for children with special needs both within mainstream education and the more severely handicapped in special schools. I urge any teachers of such pupils to take a look at this program. The clear graphics and the spoken words make the program a possibility for visually impaired pupils (especially if used in conjunction with the public domain utility !BigPoint). The bright colours, sounds and the sheer variety of illustrations could easily be the source of several types of work for pupils with learning difficulties, stimulating conversation, or for object or number recognition rather than necessarily concentrating on the tables themselves.

Conclusion

If you have children under eight and free space on your hard disc, Times Tables would be a useful stocking filler this Christmas. My own children (aged eight and five) use the program of their own free will and they are certainly benefiting from the table learning process. Schools which have suitable hardware will also find this program a hit.

Times Tables is available from Hazelnut Software and costs £30 + £2.50 p&p (no VAT). A

10/10 Driving Test – A Crash Course?

Mark Jolliffe

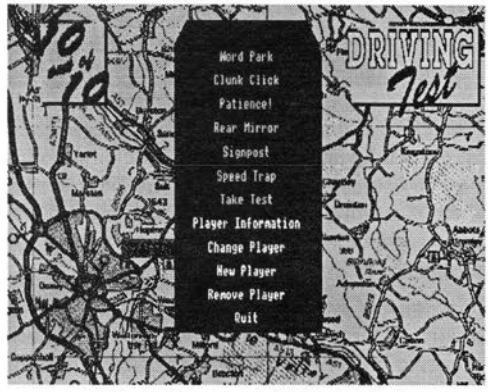
This further addition to the 10 out of 10 series arrived in a cheerfully illustrated library case containing an A6 User Guide, a loading instructions slip, and two 800Kb discs. The cover was enthusiastic – and fairly accurate – in describing the many facets of the program, which simplify to the practising of driving knowledge and roadcraft, within a selection of games. A corner was flashed "For all Drivers and Learners", with an asterisk which led me on an unresolved hunt for some qualifying statement.

The program would be expected to run on any 1Mb 32-bit Acorn, and can be installed on a hard disc. The review was conducted on a 4Mb A4000 with an AKF50 multiscan monitor, with the program on hard disc. Two minds were bent by the experience of this review: the first, a world-weary driver with no endorsements and with educational experience; the second, an almost-old-enough teenage caraholic.

Disc 1 contains two applications in addition to the program itself: !Help and !Install. The former gives comments additional to the User Guide, and the latter combines the two discs into one application on a hard disc or 1.6Mb floppy. Also hidden in the program directory is a utility for using Driving Test with VGA monitors.

The User Guide is adequate, straightforward in presentation, but more meaningful after playing with the program for a while.

There are six games, plus a test. Each game is played on six levels of expertise and eleven categories of questions. The test can be entered after five lessons (games) have been completed at level 4 or above on the first seven categories, with 70% success. Get a fail, and you have to start again. Each game has an Achievement Record and a High Score table. With the former, each level is displayed with a variable colour box containing the letters of the categories chosen. Initially grey, the boxes turn red for a score of zero, yellow for 50%, and green for 100%. The High Score table is based, in addition to correct answers, on speed of response and elements of game play. The levels range from Motoring General Knowledge to Specialised and Advanced; the categories from Trivia to Continental Driving – the latter including all the EEC countries plus many more – in all, a daunting collection.



The program is arranged around a single main menu, with sub-menus for each game. The main menu is used to select games or the test, to obtain Player Information, or to change, add or remove players. Player Information is a summary of all the individual Achievement Records for each game, similarly presented and colour-coded. This screen is additionally used to select question categories. Up to 64 individual players can be recorded, but the User Guide gives details as to how this number can be expanded.

Each game is entered via a menu which selects defaults for that game, which include the difficulty level and number of questions. These defaults, as well as the last player and the last player's scores, are saved and reappear when the game is next played.

The overall execution of the suite was faultless although, just occasionally, the mode 12 graphics were not quite up to the detail needed for some road signs. All questions were multiple choice, varying between two, and a half dozen, choices. Each was answered by a mouse click on lettered buttons, or occasionally, on a graphic representation. The choices were randomly ordered so that responses

were not consciously remembered from one session to the next. The program is not multi-tasking but, as is often the case, the lack of this facility is of no importance.

Comprehensive printing facilities are provided, both as text and graphics, for the achievement records and test certificate.

The games themselves were utterly trivial, but might appeal to the terminally bored or the extremely young – the only exception being a slick game of Patience. Remember – this program is for drivers and learners, and is perhaps an anomaly in the 10/10 series. The aim is to provide a correct answer, and be rewarded with a move; for an adult or sub-adult bent on learning roadcraft, this reward fell somewhat short of a compelling incentive. That being said, one game could be switched off, and others ignored. On then, to the serious part.

The choice of scores for the achievement record was bizarre (red 0%, yellow 50%, green 100%). Anyone achieving 0% would have had difficulty recognising a car, let alone driving one, whilst getting 100% needed care at the lowest level, was difficult by level 3, extremely difficult by level 5, and impossible by level 6. Bearing in mind the need to achieve 70% to enter the test, an extra colour at this score would have been helpful – and rewarding.

The questions themselves were wide-ranging, in both subject and subtlety. They were not always unambiguous – indeed, the suspicion lurks that the programmer was trying to be deliberately obtuse on more than one occasion, testing the player's English comprehension as much as his/her knowledge of driving. Whilst the bulk of the questions were factual, a sizeable minority were subjective, and to be slapped down on a matter of opinion was not endearing. There also remained one or two questions of fact where the 'correct' answer was very much to be challenged.

What about the test? The reviewer's examiner refused to remain a passenger in the same vehicle, and promptly issued a fail (with spelling mistake) – on a question of opinion. In real life there would have been an ugly scene.

The great, yawning, weakness of this program is its lack of supporting material. It is not possible to argue with it, or discuss its rulings. It dictates and indoctrinates, rather than teaching. It rankles, it irritates, it leaves a sense of grievance. It gives no reference to any authoritative backing and no indication that it has been passed by any motoring guru. That being said, it contains a wealth of information to be used in conjunction with reference material, professional tuition, or another person to argue against.

Buy it to find out what an ignorant bigot of a driver you are, or are about to be. For little more cost than a single driving lesson or a parking fine, it must be worth buying for £25.95 inclusive from 4th Dimension or £24 through Archive. A

Small Ads

(Small ads for **Acorn 32-bit computers** (i.e. not BBC's) *and related products are free for subscribers but we reserve the right to publish all, part or none of the material you send, as we think fit. i.e. some people don't know what 'small' means and there are certain things, as you can imagine, that we would not be prepared to advertise as a matter of principle. Sending small ads (especially long ones!) on disc is helpful but not essential. Ed)*

• **16Mb A540** (ARM3), RISC OS 3.1, 100Mb Conner SCSI drive, Colour card, Eizo T560i Trinitron monitor, £750. Scanlight Prof. A4 flatbed scanner £125. Irlam I-Scan 400 dpi scanner (roller feed) £50. Aleph One PC386 card £35. Miracom MS300 modem £25. All must go. Any reasonable offer considered. Phone 01483-455564.

• **A3000, RISC OS 3.1** 4Mb RAM, 80Mb SCSI HD, RGB monitor, PRES monitor stand and expansion case, VGC £550 o.n.o. Phone 01671-403441 (SW Scotland)

• **A310, 4Mb RAM**, RISC OS 3.1, ARM 3, 40Mb HD, 4-slot backplane, Eizo 80606S monitor £400 o.n.o. Phone 01372-459530.

• **A310, 4Mb RAM**, RISC OS 3.1, 40Mb HD 4-slot backplane, Philips CM8533 Colour monitor,

Star NL10 Printer, £400 o.n.o. Phone 01705-255116.

• **A310 colour**, colour, RISC OS 3.1, 2Mb, £300. PipeDream 3 £25, Holed Out £5, Alphabase £10, fascia for second floppy + leads £15. Phone 01508-578189 (eves).

• **A310, RISC OS 3.1**, 4Mb RAM 40Mb HD, ARM 3, Acorn colour monitor £350. Phone 01502-586865 after 6.

• **A310, RISC OS 3.1**, colour monitor, mono monitor, Brother M1709 132 column dot matrix printer £250 ono. Phone 01734-731538 after 6.

• **A310/A305 computer bits**: ARM2 chip £1, MEMC1A £1, IOC + VIDC1 £1, PSU £3, speaker/LED £1, backplane £5, RGB lead £5, RGB monitor £75 (Acorn), battery holder £1, all memory chips £3, RISC OS 2 chips £10 the set, Acorn RISC OS 3 carrier board boxed with instructions £20, Everything: £130. A3000 user port £15 – MCNewton@arcade.demon.co.uk or 01449-673443 after 6.

• **A4 model II**, 4Mb RAM 80Mb HD, carry case, spare battery, £1,300 o.n.o. Phone Adrian on 01603-748253.

• **A410/1**, 4Mb RAM, ARM 3, RISC OS 3.1, 40Mb internal HD, 40Mb External HD & 5½" 40/80 floppy, Leading Edge (Econet) MIDI Sound Sampler, ATM Vision 24-bit colour video digitiser, CC ColourCard Gold, Watford hand scanner, Taxan 775 msync monitor, CC HP & Canon Turbo Drivers, Joystick etc. £650 only for quick sale. Phone 0114-274-5209.

• **A410/1 RISC OS 3.1**, 4Mb, ARM3, 40Mb drive, Atomwide VIDC enhancer, 5¼" buffer, Taxan 770+. All at £620 or part exchange for A4 model II. Phone 01892-822172.

• **A440** – ARM3, 20Mb HD, RISC OS 3.1, Beebug VME & 5¼" FD interface, Taxan 770+LR monitor, Panasonic KX-P1124 Printer, £540 o.n.o. Will separate. Phone 01772-685553 (eves).

• **A5000**, 33MHz, 80Mb HD, 4Mb, AKF50, PC Emulator (DR DOS 6) + Easiwriter + Datapower. All for £950. HP Deskjet500 £50. Resultz £40. Ovation £40. PipeDream3 £15. Euclid £15. Midnight Express £15. Font Directory + 100s of fonts £30, Superior Golf £5, Break 127/Pool £5, Pandora's Box £12, Lemmings & Oh No More Lemmings £15, Black Angel £12, Sim City £12, Haunted House £12. Phone 01462-682961 (eves).

• **A5000 4Mb RAM**, 40Mb, RISC OS 3.11, Oak SCSI, 100Mb drive, Toshiba XM3301 external CD-ROM, Colourcard Gold, Taxan 795 Multisync £700. A310 4Mb RAM OS3.1 £100 Phone 0181-679-805 (eves).

• **A5000** 4Mb RAM, 40Mb HD, RISC OS 3.1, Eizo 9060S Multisync, Canon BJ10EX with TurboDriver & Sheetfeeder, software inc PC Emulator + WordPerfect 5.1, Wordz, ProArtisan, Genesis, Acorn DTP, games inc Simon the Sorcerer, Black Angel, Birds of War, Lemmings 2, Joystick, Headphones, all manuals and mags. £800 o.n.o. Phone 01705–552067.

• **A5000 4Mb RAM**, 80Mb IDE HD, Acorn Multisync, boxed, as new, Graphbox + ten games (worth £200), PC Emulator, 20Mb PD software, Advance, Imagery, Acorn L/C etc. £800. Phone 01841-949-9202

• **A5000** 4Mb RAM 120Mb HD, no monitor, includes Midi/Sampler card. Excellent Condition. Offers. Phone Dominic 0117-942-2663 anytime.

• **A5000 4Mb RAM**, 125Mb HD HawkV9 MkII video digitiser, Acorn monitor, Learning Curve software, Publisher & Artworks, plus other software £700. Phone Mark on 01244-535204 after 6.

• **Acorn DTP** £35 (with extra clipart discs). MS-DOS 5 £30. GammaPlot (v2) £15. SystemDelta+ (v2) £25. Genesis 2 £20, Bonjour de France – Ma Ville £20. Chemistry £10. Investigator 2 £10. Cyber Chess £12. Boogie Buggie, Superior Golf, Zarch £6 each. Startrader, Word Up Word Down £3 each, or all six games for £30. ARM Assembly Language Programming £8. Genesis Script Language £5. MS-DOS quick reference £5. RISC OS 2 PRM £35. Phone 01737-832159 (eves).

• **AKF18** £150, A3000 external HD (100Mb, Oak SCSI card) £200. A3000 external floppy £70. A3000 serial u/g £10, A310 external floppy interface £12, MEMC1a £15, CC ROM/RAM podule £18. IFEL ROM carrier board £10, Wordz £20,

PipeDream 3 £25, Epson Turbodriver £25, Home Accounts £15, Turbo Type £10, PC Emulator 1.7 £35, CC Borders £7, DTP at a Glance £5, DTP Seeds £5, Impression Dabhand Guide £7, Good Impressions £10, First Impressions £10, Games Bundle (Technodream, Chuck Rock, PIAS 1, Air Supremacy, SWIV and Birds of War) £40. Phone 0151-506-0289.

• **BBC bits** – Just a reminder that we don't take small ads for BBC computers as we only accept ads for 32-bit computers and peripherals – otherwise we might be inundated. If you want your BBC to go to a good home, we know of one charity that is often happy to receive BBCs: Dave Roberts, Family Missions, 4 Amyroyce Drive, Wrose, Shipley, BD18 1LE. Does anyone else know of a good (registered charity) home to which we could send BBCs? Have you got a BBC gathering dust? Let's get them to people who could benefit from them! Ed.

• **Eizo 9060S 14" monitor** £295 o.n.o. (+ carriage), little used, can be used on Archimedes or Risc PC. Phone 01263-577712

• **Oak SCSI 45Mb** ext HD + podule £80, Scanlight 256 £100, Acorn MIDI + Studio 24 Plus £80, HP Turbo-Driver £25, unused A5000 mouse £10, modem cable £2, keyboard extension cable £2, BBC to A5000 data transfer kit £2, DeskEdit3 £8, Arcscan3 £5, Font Directory £15, Disk Rescue £15, PipeDream4 £50, Impression v.2.19 £25, Publisher v.4.01 + "Good Impressions" + 2 Capsoft Borders disks £75, ArtWorks v.1.51 £75, Hearsay 2 £30, EFF fonts £5, TWO £5, Ancestry £10, FontFX £2, Trace £2, Genesis Plus £2, Lemmings £2, E-type £5, Saloon Cars De-luxe £10, PC Emulator £25, "C Dabhand Guide" £3, Toshiba 5½" floppy drive £5. Free: (collect or pay postage) Risc User and Archive in binders. Phone Ernie Cobbold on 01493-740557.

• **Qume Laser**, recent new drum (2000 copies approx) inc 1 toner refill, will shortly work on Risc PC with new card from Calligraph £500. Qume Drum (unused) £100. Contact Paul Cayton on 01943-878133 (eves) or 0113-277-7711 (day).

• **Risc PC Keyboard** unwanted after upgrade to German version £20. Fax on +49 228 69 00 34 for more details.

• **ScanLight A4** B&W scanner with sheet feeder £150 o.n.o. Phone 01283-712015.

• **Scanlight Professional** mono A4 flatbed scanner, £300. Taxan 770 multiscan monitor £225. Telephone Ray on 0181-864-7208

• **Simon the Sorcerer** £15, Populous £10, Wonderland £10, Corruption, Fish and Jinxter (non RISC OS 3) £5 each. Phone Oli on 01579-62472.

• **Various hard disc drives** – 80 to 400Mb 5½/3¼" all HH, SCSI and in good condition. 5½" SCSI 20Mb removable drive with five discs (not as good as SyQuest but cheaper). Marconi trackerball. State Machine Colourburst card. Beebug 5¼" disc drive interface & buffer. 1Mb serial printer buffer. A5000 LC with 4Mb memory. A5000 second floppy disc drive. Two 40Mb IDE drives. Impression Style. Phone 01203-410047.

• **Wanted: standard colour monitor**, suitable for A310. School computer room (state maintained) desperately needs your redundant monitor, cheap. Tatty or faulty – condition not a problem! Have you recently upgraded to multisync? Will collect within 100 miles of Reading. Phone Tom on 01734-871330.

• **Watford Electronics** 100Mb external hard disc & podule – suitable for A3000 or A5000 £125. Phone 01462-682961 (eves).

Charity Sales

The following items are available for sale in aid of charity. PLEASE do not just send money – ring us on 01603-766592 to check if the items are still available. Thank you.

N.B. These items are sold AS SEEN (even though you can't see them!), i.e. we are not able to give refunds if the items are not suitable for your computer or whatever. All the money paid goes straight to charity therefore NCS cannot be involved in correspondence etc over these items. If it turns out to be no good for you but might do for someone else, please send it back with a note and we will sell it again with the proviso you state, e.g. "It doesn't work on a Risc PC."

Software: Easiwriter 2 £10, Archway £10, Pysanki £2, Rotor £2, Datavision database £6, Boogie

Buggie £2, Colour Fun £2, Multistore £25.

Hardware: PCATS Graphics enhancer £20, Floppy discs £12 per 50, Acorn Econet interfaces (10 off) £15 each, External 40/80 5¼" floppy drive £25, Joystick Interface (Serial Port) £8, Z88 / psu / 128K rampack / manuals £50.

(If you have unwanted software or hardware for Archimedes computers that you could donate in aid of charity, please send it to the Archive office. If you have larger items where post would be expensive, just send us details of the item(s) and how the purchaser can get hold of them.) A

Gerald's Column

Gerald Fitton

So, to quote Paul (our editor) "Document Production Column" doesn't do justice to the range of topics I'm expected to cover and "Gerald's Column" is a bit unimaginative. This may all be true but I expect that more than a few of you aren't at all sure what I will be covering – and some will probably complain because you will think that I'll be covering things which I'm not!

Paul has said that if you find the best name for this column then you can win a prize. OK, but please write to the Archive editor with your suggestions and not to me!

For my part I have two problems with the expanded specification for this column. The first is that I don't think I know enough detail about enough subjects to satisfy those of you who are looking for a source of infinite knowledge (however, see below under Interdictor 2). The second is that, if I include in this Archive column everything from my monthly correspondence of interest, I shall fill more pages than my self-imposed limit.

I haven't forgotten that (a) I still haven't completed the series on 'future proofing', (b) I already have a draft of an article about the difference between styles in Fireworkz and Style, (c) I have been asked to write about speeding up printing by using Acorn's own printer drivers for background printing (without a Turbo Driver) – I have an outline for that article too! This month, I've decided to leave all those topics for now and clear more of the backlog of general topics selected from my correspondence.

Anyway, what I'm going to do about the column is to wait and see what sort of feedback I get from you and develop it accordingly. Just to confuse those who have made up your minds exactly what this column *will* contain, let me start with something which is most unusual for me and which will definitely not become a habit – we'll start with a game!

Interdictor 2

In the January 1995 issue of Archive, I included an example of questions which I didn't feel competent to answer. The question was "Will Interdictor 2 run on the Risc PC?"

I received a letter from Gareth Owen who is the General Manager of Clares Micro Supplies, the authors of Interdictor 2. It only goes to show that you never know who's reading this column.

Anyway, Gareth says that Interdictor 2 runs without any problems on the Risc PC. However (he adds), if you do have a Risc PC you may find that you will be happier with the most recent version since it uses the * key instead of the # key to return to the map when the plane has landed. Useful because, on the Risc PC, there is no # on the numeric keypad!

You can get the new version by returning your master disc together with a stamped SAE. If you don't send an SAE, you'll be charged £5! I suggest that if you live abroad, you find some kind person over here who'll get it for you and then send it on.

Gareth kindly sent me a copy and (without encroaching on the Games Column) I must say that I like it. It reminds me of Flight Simulator which, when I was somewhat younger (and had more spare time), I used to enjoy for hours on end! If you don't have a copy then you can get one from Clares Micro Supplies at £24.95 inclusive of VAT (or £24 through Archive).

It's confession time. I had a covert objective in choosing the shock tactic of writing about a game (which I have never done before) as my first topic in

this column. What I wish to show by example is that, even if I don't know the answer to a question and even if I feel quite incompetent to answer it then, if this column is read widely enough (and gains a good reputation for accuracy and fairness) then there will always be expert help at hand.

My thanks go to Gareth for providing the 'teaching resource' which allows me demonstrate the way in which this column might be able to provide help that I'm incompetent to give.

Draw and Paint

Back to Document Production – well, for a moment at least. I'd like to say a few words about the subject of standardisation. As my example I'm going to use Draw and Paint files but, if your interest is in DTP, you might like to think in terms of Rich Text Format (RTF) as a standard which will allow you to transfer text files, complete with styles, from one package to another.

If you're going to produce documents then, at some stage or other, you're going to need a drawing package such as Acorn's Draw, Jonathan Marten's DrawPlus, or Vector or Artworks. Drawing packages use what are called vector graphics. The image is specified as lines joining co-ordinates (rather like the lines used when you plot a graph). These lines can enclose an area; if this is the case then the area can be filled with colour. The lines can be open (i.e. not enclosing an area) so that there is no area to fill with colour.

From the first Archimedes Acorn have devised a standard for vector graphics files. This standard is the drawfile format. If you want to send me (or another Archive author) a vector graphic file on disc then please make sure that you use an option to save the file in Acorn drawfile format. That way you'll be sure I'll be able to read it. OK, I know that Computer Concepts' DTP packages (e.g. Style) will accept files in Artworks format and I do have Style so I can load your Artworks file into Style and have a look at it. That's not the point. I may want to load your file into PipeDream or into Fireworkz (or even into Schema!) and I can't do that unless it's been standardised by converting it to a drawfile format.

I will cover drawing packages in more detail another time. Let's move on to Paint.

Painting packages include Acorn's Paint and Pro Artisan from Clares Micro Supplies. A long time ago I bought Artisan when it ran under the single tasking operating system called Arthur (RISC OS 1). I didn't upgrade so I don't have Pro Artisan (again, perhaps I need it in order to effectively handle the correspondence this column is going to generate – but I can't afford it, yet). However, like you, I do have (and use a lot) Acorn's own Paint package.

Painted pictures use what are called "bit-mapped" graphics. On the Acorn machines these graphics are called sprites. A typical bit-mapped graphic consists of a myriad of dots called pixels. Every point on the picture is a pixel and every pixel has a colour.

The sprite format has recently undergone development so that more colours (about 16 million instead of only 256) can be specified. I thought that I would be unable to read 32-bit sprite files on my A540, but I was wrong – read on!

My recollection of the original Artisan is that the file format used was the Acorn sprite format. Whatever the case, I'm sure that Gareth (or one of you) will be writing to me to let me know as soon as this Archive hits your letter box! I must stop digressing too far and get to the point. If you use Pro Artisan to create your bit-mapped graphics files, please make sure that when you send them to me or other Archive authors that we can read them. The best way to be sure is to save them in Acorn's sprite format or, if you can't do that, convert them to that standard format using a utility such as ChangeFSI. By the way, I notice that the version of ChangeFSI I have (0.95) accepts the file type DE2 (ProArtisan compressed pictures) and will output sprite format. It is my guess that Clares' Pro Artisan will accept sprite format files (and if it doesn't then it should) so that you can take a standard sprite and load it into Pro Artisan.

In an earlier article, I raised the matter of exchanging sprites with other Archimedes users who have different mode utilities from you. My most recent experience is a disc I've received from David Spong (who lives in Hong Kong and is about to move to Australia). He sent me a disc containing a 'deep sprite' (which he'd created on his Risc PC). His

complaint was that he couldn't load it into Fireworkz. At first, using Paint, I couldn't see it either and jumped to the conclusion that this was because I didn't have a Risc PC. However, I decided that I would have a go at conversion with ChangeFSI. That did convert the sprite so that my Paint could read it – mind you, I've probably lost some of the subtle shades of colour but at least it appears. This test leads me to say that the latest version of ChangeFSI (v0.95) will convert some 32-bit sprites into the 'old' 8-bit sprites even though I can't display the new 32-bit modes. If you don't have the latest version of ChangeFSI, it is on Archive Utilities Disc N° 8 (£2 from NCS).

Oh yes! The reason David couldn't load his 'deep sprite' into Fireworkz was because he hadn't got the new TaskX module (see 8.4 p33 for details of why). I've sent it on to him.

So here's some advice from me about buying 'future proofed' software packages. Make sure that the package you buy will both import and export files in a format which is accepted as standard. For DTP I suggest that the standard is RTF. If you do insist on the facility to load and save files in standard format then, when you finally upgrade your software (to one with more facilities – e.g. from Paint to, for example, Pro Artisan) you will be able to take your personal data files with you into the next (better) package. After all, you'll find that those data files are more valuable than the software package because of the time and effort you've put into creating them.

Fireworkz Pro

The next question comes mainly from overseas correspondents but also from some schools and from other long term correspondents of mine. "What's happened to Fireworkz Pro?" they ask. The latest information I have about Fireworkz Pro is that it should be available for the BETT Show in mid January 1995. Demo discs will be available a few weeks after the release of the package. I know that a lot of you with PipeDream are waiting for this version of Fireworkz before spending your cash because you believe that will be cheaper than upgrading in two stages.

Fireworkz Pro for Windows is planned for release a few months after the Archimedes version.

By the way, one of the attractions of Fireworkz is that you can load and save files in RTF format.

Dongles, Turbo Drivers, etc

Under this heading I must be careful to say exactly what I mean otherwise I might find myself (or Archive) with a law suit on my hands.

So as to balance the critical remarks which follow, let me start with more positive comments by saying that I have received some letters about dongles and Turbo Drivers which go along the lines of (a) "I have never had a problem with a dongle. They penalise only the unscrupulous. They are a cost-effective and efficient method of eliminating software piracy" and (b) "I could never get my work done in time without the printing speed of my Turbo Driver".

However, such positive comments are rare. Here is a critical comment which (in slightly varied form) occurs quite often. "I had problems such as the printer hanging up and machine crashes which occurred only when I had the dongle in the printer lead. I sent my dongle back to Computer Concepts. They said that there was nothing wrong with it but that they were replacing it anyway. Since then the frequency of such problems has decreased dramatically".

There is always a 'worst case' and I must quote it. One of my correspondents had a three dongle system (Impression II, Artworks + WorraCad) plus a special Turbo Driver lead. He says that the lead is special (i.e. non standard) because there are a couple of the connections swapped over deliberately. He was getting a very high frequency of hang up and crash-type problems. This is serious for him because he uses his Archimedes for his business. Apart from quoting the cliche "Time is money", he claimed that the sheer frustration of these stoppages was reducing his ability to concentrate; it was destroying his creativity and hence his productivity. When he wrote to me he was asking me to approve of his decision to ditch the Archimedes in favour of a PC!

He came to me for advice and my reaction was that his problem could be anywhere, for example he might have a faulty piece of RAM. I suggested that what we had to do was to isolate the problem by not using various things (hardware and software) until

there was an improvement. Anyway, amongst the other suggestions I made, one was that, simply as a trial to try to isolate the problems, he should remove all his dongles and his special Turbo lead and then see what happened.

Eventually, he upgraded from Impression II to Style getting rid of one dongle. He downgraded from Artworks to DrawPlus getting rid of a second. He got a version of WorraCad which didn't need the last dongle. Finally, he reverted to using Acorn's (non Turbo) printer drivers thus getting rid of the special Turbo lead.

His comment is that his overall productivity has improved, the frequency of hangups and crashes has dropped to a negligible rate. He attributes the improvement to the removal of the dongles and the (non standard) Turbo lead. Of course, he may be mistaken and he just might have inadvertently cured something such as a bad connection – but he doesn't think so.

Let me know how you've got on with dongles and Turbo Drivers. I'll be most interested. In the meantime my general advice is that, before buying some specialist piece of hardware or software which has a non-standard element, you must ask yourself whether the benefits of using something which is non-standard outweighs the potential difficulties which might (or might not) arise.

For my own part, I am pleased to have got rid of my Publisher dongle and I don't feel the need for a Turbo Driver since I print to a disc file and then print from the disc file to the printer in background using only Acorn's standard facilities. I don't have the space this month to explain how I do this so you will have to wait for it to appear in a later article.

The Sale of Goods Act

Oh dear! I wish I hadn't mentioned that one of my correspondents wrote to me saying: "Software containing bugs contravenes the Trade Descriptions Act and must be upgraded free of charge at the earliest opportunity". I said that I wouldn't go that far but it seems that many of you wish that someone would take a software supplier to court (but you wouldn't want to be the one to do it!) and so encourage the speedier distribution of bug free versions.

Of the many letters I received on this topic, the longest was from Brian Edwards (two pages of detail). Brian makes the point that a bug fix is not an upgrade and that I have too often referred to a new version of a package as an upgrade when I shouldn't. A bug fix does not add extra features but makes the software work in the way it should. An upgrade adds new features. Brian echoes many other correspondents in saying that bug fixes should be carried out as quickly as possible and not await the next (feature adding) upgrade. He, like so many of you, is willing to pay for upgrades which are not bug fixes (provided that he has a use for the extra facilities made available by the upgrade); at least he has the option of paying for extra facilities or doing without them.

In Brian's penultimate paragraph he writes "I feel the software suppliers are doing their best to confuse the two (bug fixes and upgrades) in order to make unjustified charges... ...(you must) ensure that this confusion (in the minds of purchasers) does not occur".

I accept that I do use the word 'upgrade' when I should use the phrase 'new version'. From now on I shall try to reserve the word 'upgrade' for a new version which adds features.

Rounding

Up to now I've received only one solution to Colin Singleton's puzzle – and that solution is in Basic whereas I hoped for one using a spreadsheet! Eric Ayers' solution is on the monthly disc.

On the same subject, Ian Copestake has written to me saying that he has found the Fireworkz function round(slotref,integer) useful for rounding numbers.

Seeing applications

I've had many letters on this subject. What you all agree is that it is a good idea to let your System see all your applications before you start but many have pointed out that you don't need them to be in the root directory of your hard disc in order to achieve this. Some of you use the new features of the Risc PC to look at all the applications, many of you load the applications to the pinboard. Danny Fagandini uses a utility called !SuperBD (a Super BackDrop utility) because the icons are smaller than those of the pinboard.

The preference seems to be to keep applications out of the root directory but in a sub-directory or many sub-directories and to use some method of running all the boot files during the boot up procedure.

Monitors, SyQuest, SCSI, etc

Perhaps I've been lucky. All the feedback I've had on these topics is positive. By this I mean that those who have done anything other than that which I advised (e.g. you bought a 14" monitor rather than the 17" I recommended) have written to say how they have changed their minds (before reading my article) and now have a 17" monitor, or a SyQuest SCSI drive, etc. Nobody has written to me suggesting anything different (well, not yet)! So I'm pleased with the way those two articles have been received. I do promise to get on to the next one soon.

The efficiency of Acorn applications

Was it only last month I said something like "If you want to run PC applications and PC hardware then buy a proper PC". Anyway, one of the comments I've had from several correspondents is that PC packages seem to use up a lot more hard disc space than similar specification packages designed to run on an Archimedes. I don't think I know enough about this to make anything I say worth while – but I'd like to hear from you.

Clan Acorn

This month I was going to say much more about Clan Acorn than I have room for. I have referred in a past article to Acorn Enthusiasts. Members of Clan Acorn and what I referred to as an Acorn Enthusiast are one and the same. At present, one of the big advantages of joining Clan Acorn is that you can buy a Risc PC without buying the Acorn monitor. As I said in an earlier article, I think that Acorn should encourage a mix-and-match policy for the Risc PC as a way of keeping the more scrupulous hardware suppliers in business (in competition with the box-shifters who compete only on price and not on service).

In this context, I have had letters from people who have had bad experiences with box-shifters and have vowed never to use them again. They agree with me that whilst NCS do charge more than box-shifters for standard packages, if something goes wrong then they finish up spending a lot more than they would have spent with NCS. Please take this advice from me and those who have written to me. Unless you know that you have the expertise to fix anything which goes wrong yourself, don't buy from the cheapest supplier but buy from one whose profit margin is sufficient for them to be able to afford to provide good service.

Back to being an Enthusiast, let me persuade you to join Clan Acorn and then write to them suggesting that they should allow reputable suppliers (such as NCS) to advise on and then supply non standard mix-and-match packages. Clan Acorn Life Membership costs £15; membership forms are available from Acorn Direct.

Correspondence

Once again, it must be time that I reminded you that my address is that of Abacus Training; you'll find it on the inside back cover of Archive. It is much quicker to write to me direct than to write via the Archive office.

I notice that many Archive authors are asking for a copy of correspondence to be on disc. My personal preference is that you send me a disc containing the bulk of your correspondence (together with example files if appropriate) but that you enclose a short written note outlining the nature of what is on the disc. This allows me to determine quickly what priority to give to your correspondence. After all, if it's a contribution then you probably don't need a reply as urgently as someone requesting help. Please write your name and address on paper somewhere just in case there is something wrong with the disc.

Return postage and a self addressed sticky label does help more than you might imagine. It is the time saved which is more important than the stamp money.

I cannot read 1.6Mb format discs so please send me files on discs formatted to 800Kb.

Finally

Thanks for all your most interesting letters and for the many kind words you have written about my articles. Not only do I find them interesting but also very useful. Please keep them coming. A

Games Column

Dave Floyd

I went to the Acorn World show to see what games were being released but before telling you about them, I have a gripe...

I feel that there should be a couple of hours set aside over the weekend where children would be absent from the hall. Don't get me wrong, I have no objection to the presence of children at the show and indeed consider it essential that children are interested in any computer platform for it to have a future. I cannot, however, be the only overgrown child who finds it nearly impossible to get close to any computer which has a game loaded onto it.

I would suggest a sensible possibility would be that, on the first day, the show could perhaps open at ten o'clock with children admitted after midday. This would provide a minimum of inconvenience to parents while allowing others a brief look in. I suspect that many others may agree with me, although I do not reject the possibility that I may just be auditioning for the part of Scrooge. Comments, abusive or otherwise, are as ever welcome to the usual address at the end of the column.

The TBA Software stand provided the exception for me this year and I managed a full fifteen minutes trying out their new release, FTT. (£24.99 inc VAT or £24 through Archive) A futuristic racing game, FTT has a polish to it that hopefully we can expect with every game from TBA. They certainly have not disappointed to date. Whereas with normal racing games the only directions that the track can deviate are to the left and right, FTT literally adds a new dimension by placing the track in space and thereby allowing for corners that can also go up or down. Misjudging the bend means that your car (ship?) flies off into space and you lose time while it is repositioned on the track. The scrolling and animation were faultless and I can wholeheartedly recommend this game to anybody. A most impressive follow up to their older (yet still worthy) Axis.

Also promised for release by TBA before Christmas were Cyber Ape, Warp Riders, ARL and Merp. At last year's show, an early version of ARL was being displayed on their stand and it looked very good. If these four games and Cobalt Seed, which is planned for early 1995 release, prove to be of the quality displayed by TBA's previous two releases, it would not surprise me at all if the company were to become the leading software house producing original Acorn games by this time next year.

One of the busiest games stands was certainly 4th Dimension's. On display they had their new release, E-Type 2 (£33 through Archive), and it looked very good indeed. I did not get the chance to play it, but if the crowd of eager youngsters around the machine was anything to go by then I would say that the feel of the game was also not a disappointment. The game is Risc PC compatible and allows split screen two-player racing and additions to your car include the facility of firing missiles at opponents. (Rumours that Damon Hill has contacted 4D for the technical spec are apparently unfounded.)

Finally, released at the show was Simon the Sorcerer (£38 through Archive). Launched last year as 'the fastest conversion to be released on the Archimedes' the reality has proved to be somewhat different. Gamesware also have a conversion of Dune 2 in the pipeline, although I did not have the heart to ask which year this could realistically be expected. *(Well, here's a surprise... it's in stock now at NCS, price £33. Ed.)* All joking aside, I must say that although a year ago I was very dubious about the premium price being asked for Simon the Sorcerer, the delay in its release has made me rethink this to a certain degree and will say now that if the hype surrounding it is justified, it will possibly be worth the extra few pounds for the diligence that has been shown in the coding of the game. The temptation to rush out a flawed version to recoup development costs must have been great and it speaks volumes for the integrity of Gamesware that they resisted the undeniable attraction of such a ploy.

Finally, the other games release that caught my eye was Wolfenstein 3D (£29 through Archive). This predecessor to Doom has been available on the PC for quite a while and the conversion is indistinguishable from the original as far as I can tell. Your

mission is to make your way through a Nazi complex, shooting enemy soldiers, discovering secret passages and picking up replacement bullets and treasure along the way as well as upgrading your firearms from the dead bodies you leave in your wake. Pure arcade action, I have played this many times on a PC over the last couple of years and can certainly testify to the longevity and playability of this game. Powerslave certainly deserve to have a winner on their hands with this release.

There was much more to see at the show and I have only managed to cover a brief selection of what was on view. I certainly enjoyed it and eagerly await next year. For those of you who live near London and have never attended, I can only say that the effort is certainly worthwhile and when next year comes around I hope to see you there.

Any comments relating to this column, or any other games-related subject should please be sent to Dave Floyd, c/o PO Box 2795, London NW10 9AY. A

Image Processing Terms

Ian Palmer

Below is a glossary of some of the terms used in image processing. I have tried to give a mixture of both basic, and more detailed, information. I have also included descriptions of three common file formats.

Colour models

A colour model is a way of specifying a colour by giving a number of values (typically 3), and there are many different models available. One of the most common is the RGB model, where a colour is specified by giving its red, green and blue components. This is the model that RISC OS uses for specifying colours.

Two other common colour models are the CMY and CMYK models, often used in printing. These models require colours to be specified by giving cyan, magenta and yellow components (and in the case of CMYK also a *key* (or black) component). The reason that the CMY(K) models are used in printing is that, in colour printing, these are often the colours of the inks used in the printing process. The relationship between the RGB and CMY models are:

cyan = 1 – red
magenta = 1 – green
yellow = 1 – blue

(assuming all components are specified as a value between 0 and 1).

Another model is the HSV (HSL) Hue, Saturation and Value (Luminosity) model. Here hue defines the relative red, green and blue component (as an angle round a triangle with each of red, green and blue at the vertices), saturation defines how much colour there is (from grey) and value (luminosity) defines the brightness of the colour.

Dithering / error diffusion

Dithering and error diffusion are methods of achieving better results on a display device which can not represent the full range of colours needed. Ordered dithering is the use of regular patterns of two, or more, colours to approximate a third colour that lies inbetween those used. This technique is used in printing to display (for example) a grey scale picture using just black ink, and is used in programs such as ArtWorks when displaying in 16 and 256 colour modes.

An alternative to ordered dithering is error diffusion. In a simple example of this scheme, the pixel to be displayed is read and the closest colour that can be displayed is calculated and used in the display. Then the difference between the two colours (the error) is calculated and added to the next pixel to be displayed. Floyd-Steinberg error diffusion is a more complex form of error diffusion where the error, instead of being added (in whole) to the next pixel to be displayed, is spread over four surrounding pixels. The way the error is spread is as follows:

	x	7
3	5	1

(where x represents the pixel being processed). The numbers represent the proportions with which the error is added to the surrounding pixels – the values

above add up to 16, therefore the pixel to the right of the pixel being processed gets 7/16ths of the error. The pixels to the left and above receive none of the error – this allows you to process the pixels in a picture a line at a time (top to bottom) and from left to right. In fact, usually, every alternate line is processed right to left as this will reduce the chances of patterns appearing in the result.

There are other, less common, error diffusion algorithms which are similar to Floyd-Steinberg, but often produce better results (but take more processing), these include:

Stucki:

		x	8	4
2	4	8	4	2
1	2	4	2	1

Sierra:

		x	5	3
2	4	5	4	2
	2	3	2	

Jarvis, Judice & Ninke:

		x	7	5
3	5	7	5	3
1	3	5	3	1

Stevenson & Arce:

			x		32	
12		26		30		16
	12		26		12	
5		12		12		5

Filters / kernel operations

Filters (or kernel operations) is a term used to describe a range of operations where a pixel in the output picture is calculated using the corresponding input pixel and its neighbours. The number of neighbours used varies, although common numbers include four (North, South, East and West), eight (as with four, plus North-East, etc.) and 24 (all pixels in a 5x5 square around the pixel). The best way to explain filters is by example. Consider a filter defined by the following kernel (matrix defining a filter):

1	1	1	
1	1	1	multiplier = 1/9
1	1	1	

An output pixel will be created by first multiplying the pixel values (either intensity for monochrome processing, or RGB components for colour processing) by the corresponding kernel entry. Then all the values obtained are added together, and then multiplied by the *multiplier* value of the filter operation (in this case 1/9). The resultant value is then used as the output – in colour processing the red, green and blue components are processed separately. The kernel shown above results in the output pixel being the average of the input pixels within the neighbourhood; this is a very strong smoothing operation blurring the picture.

Milder smoothing operations can be achieved by weighting the central value in the kernel (i.e. a larger number, for example, 8). However, the multiplier must also be altered accordingly. As a basic rule of thumb, to ensure that the overall brightness (intensity) of the output picture is the same as the input picture, the multiplier should be 1/n where n is the sum of the values in the kernel.

Smoothing is only one of many operations that can be performed by filters. Another common filter is the sharpening filter which attempts to do the opposite of the smoothing filter. It can be thought of as subtracting a blurred (smoothed) version of the picture from itself. An example sharpening filter is:

-1	-1	-1	
-1	9	-1	multiplier = 1
-1	-1	-1	

This kernel shows the input pixel being multiplied by 9 and then having the values of its neighbours subtracted from it.

Another common filter is one used for detecting edges. For example consider the following kernel:

1	0	-1	
2	0	-2	multiplier = 1
1	0	-1	

Consider a pixel surrounded by pixels of a similar intensity (a flat area, no edges) the result of applying the kernel will tend to be pixels with low intensity values. Now consider a pixel with bright pixels to its

left and dark pixels to its right (i.e. the pixel is at an edge) the result will be a bright pixel. Thus the above filter highlights vertical edges which represent a change from light to dark going left to right.

One final common task performed by filters is noise removal. This can be performed using a smoothing filter, although this also blurs the picture. To overcome this problem, a threshold value is introduced into the process. This time an average value is obtained for just the neighbours (i.e. the pixel being processed is excluded from the calculation). Then the difference between the average of the neighbours and the pixel being processed is calculated. If the difference calculated is greater than the specified threshold value, the pixel is replaced by the average value calculated, otherwise it is left untouched. The result of this is that pixels that are very different from those around it are removed and replaced by the average of those pixels around them,

Gamma correction

One problem with monitors is that the relationship between (a) the brightness of a pixel on the monitor as specified by the applied voltage, and (b) how bright that pixel appears to the viewer is not linear. In fact, there is usually a logarithmic relationship defined by the following equation:

$$I = KV^{\gamma}$$

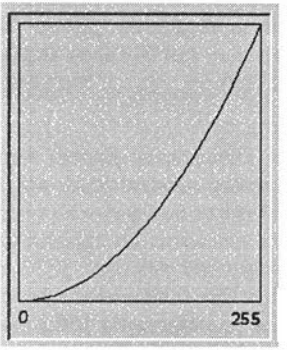
where I is the intensity of the observed pixel, V is the voltage applied to the monitor, and K and γ are constants.

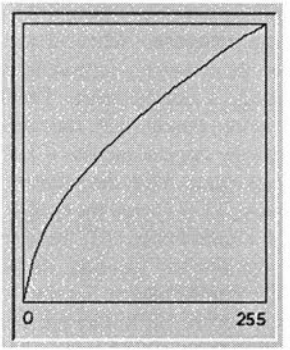
Gamma correction is a software method of correcting this problem. It is also a useful tool for brightening/darkening a picture that suffers from problems beyond those caused by the monitor. During gamma correction, the inverse equation is used to calculate the V that should be supplied to the monitor to achieve the correct intensity I:

$$V = (\frac{I}{K})^{\frac{1}{\gamma}}$$

Usually K is ignored during the process as this can be corrected independently prior to gamma correction, thus only γ needs to be specified by the user.

That is the theory, but what about practice? Basically, for gamma correction, the user needs to specify a value for γ. A value of 1 will make no change to the picture. A value between 0 and 1 will tend to darken the picture, a value above 1 will tend to brighten the picture. How the picture will be brightened/darkened can be seen in the following two graphs which show the gamma functions for g=0.5 and g =1.8 (input value is on the x-axis, output is on the y-axis):





GIF

Compuserve GIF (Graphics Interchange Format) (pronounced *'jif'*) is a graphics file format which can store images with up to 256 colours using LZW compression. Although 256 colours is perfectly adequate for a grey scale image (24-bit colour offers 256 shades of grey) it is not adequate for full colour pictures, especially photo realistic pictures. GIF files will often contain pictures which have been subjected to dithering/error correction techniques and, consequently, the added step of further dithering for

display in a fixed palette 256 colour mode under RISC OS leads to less than perfect results. The problems are worse when you try to use a picture from a GIF file in image processing, especially when subjecting to filters (kernel operations) that sharpen a picture. This is because sharpening will highlight the artificial edges created during dithering and error correction. There are ways to get around this problem, one of which is to pass the image through a softening filter which will smooth out the artificial edges – but the picture will be more blurred. An alternative is to reduce the picture size using a rescaling operation that performs anti-aliasing (see also JPEG, TIFF).

JPEG

JPEG (Joint Photographic Experts Group) is an image compression standard which was designed to compress full-colour and grey-scale images of real-world objects and scenes (as opposed to computer generated images and paintings). JPEG, unlike GIF and TIFF, is a *lossy* compression scheme; that is, if you compress an image using JPEG, then decompress it again, the output will not, necessarily, match the original image exactly, (although the differences should not be noticeable. When creating a JPEG image, it may be necessary, depending on the software, to specify a quality value. The higher the value, the more closely will the decompressed picture match the original picture – but the JPEG file will also be bigger. With the software written by *The Independent JPEG Group*, the quality value is in the form of a percentage, 0% being the lowest quality and the smallest file size, 100% being the highest quality and the biggest file size. It should be noted that a quality of 100% does *not* mean that the decompressed picture will be identical to the original. Usually you should use values between 50% and 95%.

There is one big problem with JPEG as a standard. In fact, it suffers from exactly the opposite problem to the TIFF standard (see below) – the group who developed the standard were prevented from defining a file format. Conversely, TIFF has a defined file format, but no fixed definition for compression. Thus it is up to the software developer to define a standard – and many have – all different from each other. Two file formats have been generally accepted as standard, however, and these are a JPEG extension for the TIFF standard, although this is not very common, and the JFIF (JPEG File Interchange Format) standard which is by far the most common and is the format understood by ChangeFSI, etc.

TIFF

TIFF (Tagged Image File Format) is a graphics file format which can store full colour pictures. The TIFF standard basically just defines the format of a file, which is a sequence of tagged items. The way a picture is stored within the file is not defined by the standard – in fact, anyone can create their own storage system within a TIFF file. This undefined structure of TIFF can lead to problems. It is possible that a TIFF file will not be able to be read by a piece of software because the software doesn't support the particular type of TIFF file.

Common compression methods used in TIFF files include: none i.e. no compression (any software that reads TIFF files should cope with this), packbits where sequences of the same pixel colour are grouped together, LZW, as used in Squash, SparkFS, ArcFS, CFS, etc, and special compression techniques for compressing bi-level fax images. It should be noted that using a compression scheme will not necessarily reduce the size of the TIFF file.

Warping

Warping means mapping an area of a picture onto another area (either in the same picture or to a different picture) using some geometric transformation. For example, below is a picture of a warping between two quadrilateral areas, the source area is shown above, the destination is shown below:

I hope you have found these definitions helpful. If you have any questions, suggestions, etc, drop me a line via the Archive office.

CC's ColourCard Gold

Ian Gooding

I have used ColourCard Gold, version 2.1, for almost a year. My system is an A540 with a Taxan 770+ multiscan monitor, and is mostly used for DTP and graphics design. I bought the Colourcard mainly to reduce the effect of screen flicker on my mental health. The other advantages such as programmable desktop colours and stunning PhotoCD or JPEG/MPEG images are great too.

Installing

The card came well packaged with good installation instructions. The standard package assumes that you have an A5000 or similar machine with a VGA-type 15-pin monitor lead. Owners of older machines – A400 or A500 series – have a 9-pin connector, and will have to send in a voucher included with the package and wait for an alternative lead to be provided. Mine came by return of post, free of charge.After that hurdle is overcome, the package is easily to install. It uses a half width podule slot, to which are connected an input lead from the standard monitor socket, and an output lead to the monitor. In my case, this again needed a conversion connector, which is supplied, from the 15-pin socket to the older 9-pin connector. My version worked first time when I connected it all up. Please note that a standard PC-compatible monitor lead will not work!

In use

Computer Concepts have chosen to pass through the output from standard modes unchanged, so these work exactly as they always did, complete with screen flicker. A wealth of new modes is provided, several of which duplicate the function of standard modes like 21, but without the flicker. There are also four new modes in thousands of colours, which are fully functional with the desktop. A range of new modes exploits the higher screen resolution available, though many of these will not display on my monitor because its bandwidth is not high enough. The screen mode manager FlipTop is supplied, and is a useful way of navigating around the various screen modes supported.

My monitor specifies that it has a video bandwidth of 30MHz. The table below shows which modes work on my monitor. Unless noted, each 256 colour mode has equivalent 16 colour modes, though there is no particular reason to use them any more!

Thousands of colours on my desktop

It's true, and for most applications it works well. I have Fireworkz, Impression II, Publisher, Artworks, Datapower, ProArtisan 2, Rhapsody III, etc, all working. Old versions did not all work well in these new desktop modes, and there are still problems with CC's own Scanlight Plus (v2.01), and with Sibelius 6, which doesn't work in these modes. You'll also find that the standard desktop Paint does not work, and Computer Concepts have written a special module to trap attempts to load it while in a 32K colour mode. Older applications, such as PC Emulator, Trace and ChangeFSI don't work, and some newer ones like Acorn's PhotoCD partly work. (It displays the thumbnails of PhotoCD pictures correctly, but an extracted picture is only correct when viewed in a 256 colour mode – loading into Publisher shows it in glorious 32768 colours!)

I'm used to the steady screen now – going back to my old A440 without a Colourcard is quite a shock!

Speed

There is not so much difference in processor speed with my A540, as the ARM3 processor cache reduces the overhead. It is about 5% faster to use an equivalent Colourcard 256 colour mode than a standard one, and 2-3% slower using a 32 thousand colour one. However, when I tried the card with my trusty old A410, the difference was much more visible. I found I could use 256 colour modes instead of 16 colour ones, and it still ran faster than the standard machine.

Mode	X res	Y res	Colours	Refresh rate	Notes
21	640	512	256	50 Hz	Standard mode. Flickers!
99	640	512	256	64 Hz	No flicker, 9% faster than 21
91	768	576	256	50 Hz	Unstable on my screen
107	576	424	32768	73 Hz	Brilliant detail, too small work area
105	800	304	32768	73 Hz	Width good for DTP work
111	1152	424	256	71 Hz	Large area, very small on screen

Conclusion

You can have colour images with resolution up to the capabilities of your monitor, without buying a Risc PC. Some software hasn't caught up yet, but it often doesn't work on the Risc PC either! All the 24-bit colour software I have tried works, except Photo-CD as above! Some games from magazine discs etc don't work, but otherwise I haven't had any trouble.

A greater range of modes would help me even further, though part of this is my old monitor. I am still jealous of the mode designer available to VIDC 20 users! For me, the Colourcard Gold at £290 through Archive is good value in eliminating eye strain, but possibly not worth it now if you are thinking of a Risc PC in the near future. A

APDL's Clipart CD

Ted Lacey

This CD, recently released by David Holden's APDL Public Domain library, is a must for anybody who uses clipart in DTP work. Apart from a few minor hiccups, it has been well put together and, with very few exceptions, the quality of the items is very good. David and his team are to be congratulated on their selections – they have weeded out a lot of the rubbish which has been ported over from the PC public domain.

Although the majority of the items are public domain, there is a shareware sub-directory which needs to be used with care because of copyright considerations. It also needs to be looked at in great detail in order to find out what the items are – for example, one sub-directory called GRIN contains 150 files which are numbered!

The CD contains two main directories, Colour and DTP, and an application called EarthMap. The inclusion of the last item is a very good idea as I believe it occupies some 14Mb of space when used on a hard disc. The two main directories contain some 160 and 310Mb of clipart respectively organised into various sub-directories and sub-sub-directories by subject.

The DTP directory, although mainly black and white, does contain some colour items. With so many items on the disc, finding a particular item is going to be a bit of a problem. An alphabetical index would have been useful, but creating one would involve an enormous amount of work. I demonstrated this CD at a recent meeting of the Southampton Arc Users Group. This problem was discussed and I was given a copy of a PD program called !TreeMenu. It works very well with the CD and provides easy access to the files contained in the various sub-directories. I think there are other similar programs available but, never-the-less, I am sending copies to both Paul and David for possible inclusion on their respective monthly and special discs. *(I've put it on monthly disc. Ed.)*

On the minus side, I did find some files which did not work. Having time on my hands, I ploughed through the entire contents and found twenty sprites and drawfiles that failed and gave error codes – but that's a very tiny percentage of the whole! Some items appear to be in the wrong sub-directories and I did find a Draw sub-directory which was empty. Details of these minor gripes are being forwarded to both Paul and David, again with the idea that these details could be included on their respective discs so that other users of this CD will not waste time over these dodgy items.

APDL make various offers in their sale of this CD. For the personal user, the return of five or more *original* discs from APDL's 'DP' or 'AW' range will give you a discount of 50p per disc. Most state-run educational establishments can register for using the CD on a network for an administration fee of £1.

All testing of this CD was done on a 9Mb Risc PC. The "funnies" were re-tested on 5Mb a Risc PC at my computer club and also on my A3000 – with the same results.

For anyone with a large clipart library and who, like me, was contemplating the purchase of an additional hard disc specifically for clipart, this CD is the answer – assuming you also have a CD-ROM drive! If you haven't got a CD-ROM drive on your Acorn but have access to a PC fitted with a CD-ROM drive, APDL give details of how to get the material

across onto your Acorn. For the newcomer to the Acorn scene, the cost of a CD-ROM drive plus the Clipart CD is less than buying some 400 HD floppy discs containing clipart. This CD is thoroughly recommended to anyone who uses lots of clipart and will be particularly useful in the education world.

The APDL Clip Art CD costs £28 from APDL or £28 through Archive. A

Risc PC Screen Modes Made Easy

Jochen Konietzko

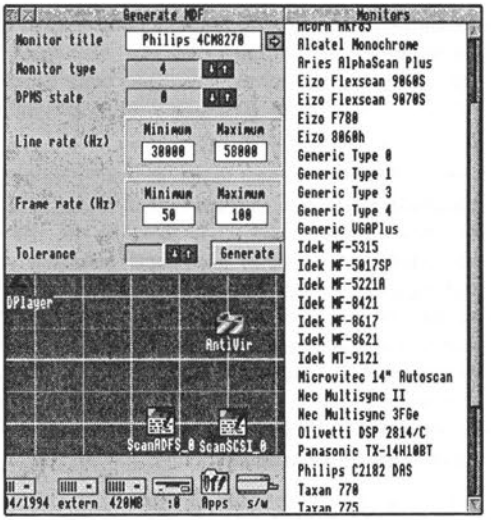
Thanks to Andrew Garrard's excellent article in Archive 8.1, p.41ff, we now know about the way the Risc PC administers screen modes. There are now at least two mode editors on the market which make building new screen modes very simple.

Due to Andrew's in-depth article, I can concentrate on the handling of the two programs.

!MakeModes (version 0.19, Acorn Ltd.)

This program was provided on the Archive program disc 8.1. It contains a directory with 35 pre-defined mode files for various monitors and a very extensive Docs directory.

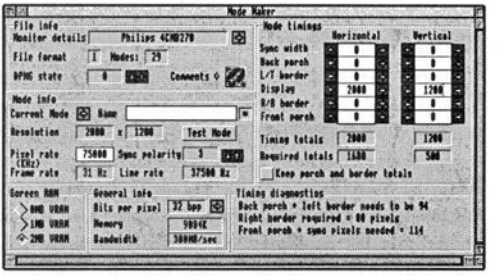
If your own definition starts from scratch, you click on the iconbar icon, and copy the details from your monitor's manual into the window which appears on the screen.



This is also the place to check if any monitor in the list has similar technical data to yours.

A click on Generate opens the main window where all those settings described by Andrew can be made. The program then calculates the consequences of the values you have chosen and gives a detailed analysis. In the picture below (in the top right corner of the window) I have entered a wildly improbable screen mode, and you can see MakeModes' diagnosis (some of it issued in bright red) *(which doesn't show in mono! Ed.)*.

Very useful is the Test Mode button; if the new mode creates some funny effects, hitting any key will take you back to the previous mode setting.



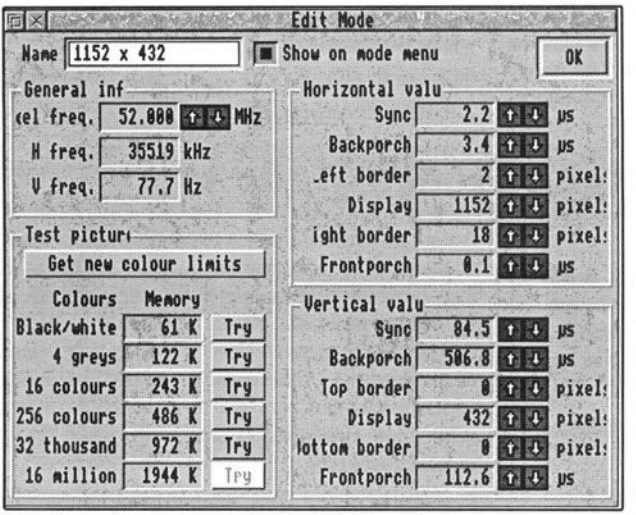
A minor problem occurs if you wish to edit a monitor description file which was created outside MakeModes. The program will only accept files for monitors which are on its MonList file; so, before you start, you have to enter the monitor into this list.

!CustomRPC (version 1.04, Thomas Olsson)

This PD program is somewhat simpler in design than MakeModes. There are no modes ready for choosing, and the documentation is rudimentary.

You drag a monitor definition file onto CustomRPC's iconbar icon, and a window with all screen modes available in this file opens.

Clicking <select> on one of the items will display this mode, <menu> will bring up the options to create a new mode, copy one, edit or save one, and <adjust> opens the Edit Mode window.



Unlike MakeModes, this window demands some of the settings in microseconds. The Try buttons don't display the Desktop but a series of concentric circles which show all the colours available in this mode.

Conclusion

Altogether, CustomRPC is not quite as powerful as MakeModes. However, for a quick bit of fine tuning of one of your modes, it is just the thing.

MakeModes is truly an excellent little utility which should be on every Risc PC's hard disc. A

Report Writer

Paul Cross

This program is written for teachers and is intended to ease the pain of writing reports. I have been writing reports for more than a quarter of a century and it does not get any easier with experience! When I started writing reports, the personal computer was not available and they were hand written, so if you made an error or wished to change something you had to rewrite the whole report. With the introduction of computers, and all the advantages of word processing, report writing became easier but there was still the problem of finding suitable words and phrases to say politely that 'little Johnnie' needs a rocket up his trousers to get him moving!

Many schools have adopted computerised record and assessment-keeping modules for use with the office computer systems, and using the information stored within the system, reports can be generated at the end of the year. But these reports are, in most cases, less than satisfactory because, in my opinion, they are bland and lack the personal touch of an individually thought out report.

This is where Report Writer is extremely useful and different, as it acts as a phrase collection, with the added advantage of minimising the amount of typing needed to produce a report.

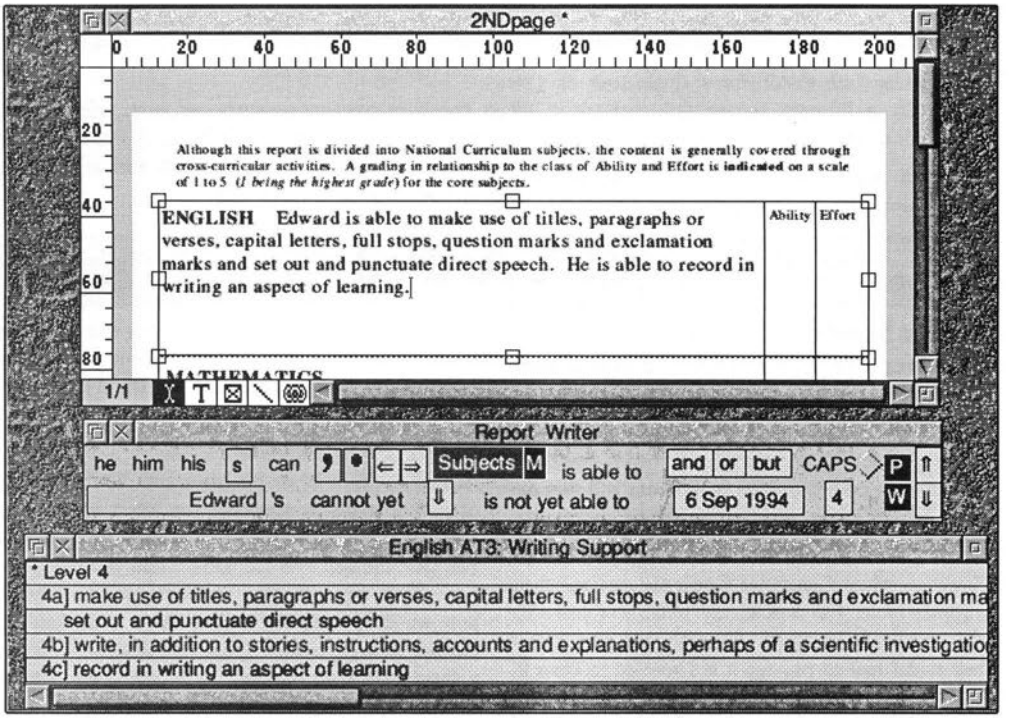
What is Report Writer?

Report Writer arrives in a large plastic box which contains two discs, a manual and instructions on how to install the program which can be run from floppy disc or installed onto hard disc.

Essentially, the program acts as an interface between the writer and the word processor that you normally use to write your reports. You need both Report Writer and your word processor to be loaded onto the iconbar ready for use.

Report Writer allows you to access words, phrases, punctuation and data statements by a few clicks of the mouse button and sends them to the word processor. It also allows a personal collection of statements to be added to the data for each subject of the curriculum and these may be edited and added to at any time. The data disc contains a bank of statements for each subject in the National Curriculum at Levels 1 – 4. Additional statements can be created for RE and Personal and Social Education (General Comments).

The name and gender of the pupil can be edited and then any statement that has a 'he', 'him' or 'his' will be altered to 'she', 'her' or 'hers'.


2NDpage *
Although this report is divided into National Curriculum subjects, the content is generally covered through cross-curricular activities. A grading in relationship to the class of Ability and Effort is indicated on a scale of 1 to 5 (1 being the highest grade) for the core subjects.
ENGLISH Edward is able to make use of titles, paragraphs or verses, capital letters, full stops, question marks and exclamation marks and set out and punctuate direct speech. He is able to record in writing an aspect of learning.
Ability
Effort
MATHEMATICS
1/1
Report Writer
he him his s can Subjects M is able to and or but CAPS P
Edward 's cannot yet is not yet able to 6 Sep 1994 4 W
English AT3: Writing Support
* Level 4
4a] make use of titles, paragraphs or verses, capital letters, full stops, question marks and exclamation ma
set out and punctuate direct speech
4b] write, in addition to stories, instructions, accounts and explanations, perhaps of a scientific investigatio
4c] record in writing an aspect of learning

The only limitation I found to its use is that it needs a minimum of 2Mb of memory to run the program. This is because it has to run alongside the word processing package.

The screen opposite shows Report Writer in action. At the top is the word processor screen, in this case Ovation, with the report form I use but any word processor and any report form can be used. Below this is the Report Writer main screen which, as you can see, takes up very little space. Any word or action can be accessed by a single mouse click. At the bottom is a section from Level 4 of English AT3 from which any phrase can be selected and sent to the word processor by a single mouse click.

The program is capable of storing 160 user created or edited statements. In addition to this, you can have 480 statements for RE and Personal and Social Education, and 160 user-defined phrases and words. This is a vast amount of data which is stored in a compressed form on a single data disc.

In use

I had finished writing my reports by the time Report Writer arrived but I set to work examining the program with enthusiasm, the pain of the past days (actually mainly nights) being still fresh in my mind. Would it be easy to use? Would it make this time of year a little more tolerable? Would it improve my report writing? The answer I found was yes!

The program works well and, after a very short time, I became adept at entering text into the word processor. The next stage is to adapt some of the phrases and add my own collection of gems to the data bank.

Conclusions

As with other Creative Curriculum Software, this is a program that has been thought out by people who obviously know what they are doing. It does not look anything special but it works well!

I would certainly recommend that you buy it, but don't wait until next summer. You will save yourself

a lot of work but you need to start thinking about what phrases you want to add to the data banks.

The cost is £49 +VAT for a single user or £89 +VAT for a Primary licence (10 user) or £149 +VAT for a Secondary site licence.

One final point, with the review of the National Curriculum and the change in the Statements of Attainment, the data banks will be out of date after next summer, but it should be an easy task to update and replace the data disc.

This is an excellent program and, in my view, is well worth the money as it will certainly cut down the many hours I spend writing reports and, at the same time, improve the quality. A

CC's ArtPad

Trevor Sutton

There have been many attempts to provide a more satisfactory tool than the mouse (or of course the cursor keys) for drawing or painting by computer.

I have tried several and always returned to my belief that drawing on a computer is different and that the zoom facility within most art programs means that the mouse is an adequate device for the job.

However, when Computer Concepts sent me their graphics tablet for review, my mind was instantly and completely changed. The only sad part is that they said I had to pay for it if I wanted to keep it. Having used everything from a puck to a concept keyboard for computer art, I can highly recommend this unique graphics tablet.

The most amazing feature of ArtPad, which is made by Wacom, is that the drawing tool is a cordless pen. After about half an hour, I was able to use the pen for most mouse functions in addition to drawing. My first try was, of course, with ArtWorks but it replaces mouse actions so you could play games with it if you felt so moved. The mouse remains functional so you may prefer to use that for window operations, drag and drop actions etc.

The A6 ArtPad which I tried, initially seems a little small. There are A5 and A4 versions but the price seems to go up in direct proportion. I feel the A6 size is adequate for home use or even for schools. My twelve year old daughter was using it confidently and accurately within ten minutes.

Unpacking

Inside the box, as well as the tablet and pen is a power supply which fits into the plug which connects to the serial port, a 9-25 pin adaptor and DOS/Windows software.

Also included is Computer Concepts own software **CCtablet** which has to be installed and run for the tablet to function. An optional pen stand costs £13 +VAT. I guess the pen is worth taking care of since any old ball point pen will not do!

ArtPad works in all art packages and the real beauty of it is that lightly touching the tablet emulates a <select> press on the mouse so to draw on the tablet you slide the pen over the surface and you take your pen off the tablet to move without drawing. This is how we draw naturally and so there is no holding buttons down to emulate pressing <select>. There is a small switch on the pen barrel which emulates a <menu> press on the mouse. Touching the pad whilst holding the left <Alt> key, gives an <adjust> click. It is possible to re-configure these functions.

Pressure sensitivity

The great advantage over other input devices is that the pad is pressure sensitive. What this means depends on how the software copes with ArtPad. In ArtWorks and with the new **Pressure Tool** (see

ArtWorks Column) the harder you press on the tablet as you draw, the broader the line.

PhotoDesk, the image manipulation software from Spacetech, has a menu option to allow the use of ArtPad. Again slight pressure allows the area covered, by whatever effect you have chosen, to increase in size.

CCTablet

This software is more than just an invisible user interface for ArtPad – it provides a variety of configurable options. Most notable is Relative Mode which makes the pen behave more like the mouse. That is, picking up the pen and moving it leaves the on-screen pointer in the same place. Relative Mode off behaves more like a real pencil in your hand, moving the on-screen pointer to the new position.

Calligraphy mode allows a pseudo-calligraphy pen action to be used with the ArtWorks pressure module. This is useful for producing various effects and not just for handwriting as I describe in the ArtWorks Column.

In conclusion then, I would thoroughly recommend ArtPad to serious computer artists. It is not cheap but it is a sophisticated and, from what I have seen so far, a sturdy piece of hardware. I'd love one!

A6 ArtPad & drivers + the pressure tool costs £179 +VAT from Computer Concepts or £209 inclusive through Archive. The A5 pad + software is £409 +VAT or £475 through Archive and the A4 pad + software is £559 +VAT or £650 through Archive. (PhotoDesk costs £169.95 +VAT from Spacetech or £185 through Archive.) A

Spreadsheets Take to the Water

Richard Readings

I regularly spend my time getting cold and wet while I try to manoeuvre a sailing dinghy at least as fast as a dozen or so others around a series of cans. I return with a piece of paper bearing the results of the race, which is usually one of a series for which places need to be calculated overall.

A couple of years ago, I noticed an Apple Macintosh computer apparently being used to calculate the results of such a series with a spreadsheet program. That seemed a good idea, though it turned out that it was only being used to format and print the results, which were still being calculated by a Mk1 brain. I thought it must be possible to get the spreadsheet to do the work, with a proper computer, so I decided to have a go.

PipeDream

I discovered one major problem with this approach. In those days, I was using PipeDream which included an enormous range of built-in functions but was probably not designed by anyone who belonged to a sailing club! I had to resort to writing my own "custom function" which calculated the points awarded for each race. The "Place Points" system is normally used, whereby the winner is awarded ¾ of a point, second place 2 points, third place 3 points and so on. Boats that do not score finishing points (e.g. one that retires before the finish, usually preferring the comfort of the bar) are awarded a number of points relative to the declared entry, e.g. boats entered plus one. Writing the function for retirements proved a fairly straightforward task, considerably easier than scoring just ¾ of a point in the actual race!

At the end of a long series of races, it's usual to count just half of the races (rounded up) and to discard the worst results. This is where life with PipeDream became difficult. Another custom function was required to do this and it turned out to be quite complex. Although you can pass an array to a PipeDream function, I've never figured out a way to sort the array within the function, so I had to find other ways to extract the best results from the array. Although PipeDream provides an index function to read data from an array there doesn't seem to be a way to write data back into the array.

A further problem arises when a boat is awarded "average points" for a race, usually when the crew perform some noble task such as manning the rescue boat. Average points are defined as the average of the points awarded to her in the races which she will count in the series. I eventually wrote a series of custom functions which performed this

task, but when I came to calculate the results of a series of a dozen or so races, with an entry of about twenty boats, my trusty ARM3 processor almost ground to a halt.

Monday Series 1994 - Wayfarer Class

SAIL	BOAT	6-Jun	13-Jun	20-Jun	27-Jun	4-Jul	11-Jul	18-Jul	25-Jul	Total	Position
6288	Devon Pickle	2	4	1	3	*	R	1	1	4.25	10
981	Rebecca	R	1	3	1	*	*	*	2	6.50	11
1759	XLR8	1	7	4	5	3	R	2	3	8.75	12
9499	Windy Pops	*	6	2	2	2	R	3	*	9.00	13
7088	Moonshadow	R	2	5	7	1	R	7	R	14.75	14
7833	Moonshine	3	10	8	8	5	A	4	5	16.25	15
Entries =		15									
Retirement =		16									
Disqualification =		17									
Did not compete =		18									
Races to count =		4									

Excel

I then transferred my attention to an office PC, running Excel v4.0. Although I prefer the RISC OS desktop environment to Windows, I found that Excel offered a number of significant advantages over PipeDream. The first was an improved ability to format the data to improve the presentation – using different fonts, sizes and row heights, etc. A more important advantage was the macro language. Excel allowed me to write a custom function which could take an array and sort it, for example. Within a single custom function, I could now:

a) convert places to points (e.g. first place = 0.75 points)
b) sort the points into ascending order
c) calculate average points (if any)
d) sort the points into ascending order again
e) return the sum of the points for the races to be counted

Two further bonus items were that I could understand the function once I had written it, and it was much quicker to compute, by virtue of its simplicity.

Resultz

Excel meant that I had to suffer Windows so I looked at other spreadsheets available for RISC OS which might compare with Excel. Resultz was an early candidate. It provided formatting capabilities akin to Excel, though I personally found these difficult to use, perhaps having become accustomed to Excel. However, it inherited the PipeDream macro language and its limitations with array handling, and so was quickly eliminated.

Eureka 2

The next candidate was Eureka 2, sometimes dubbed 'Excel for RISC OS'. This proved to be a well-earned title. Although it could not accept Excel files directly, I copied the data and custom function via CSV format files (Lotus 1-2-3 is another common format). With just one minor change to the argument list in the custom function, everything sprang into life, except the column which contained the final placings. I had used the RANK function in Excel to calculate these, but this is not available in Eureka so I had to write my own as another custom function. But, in general, having learnt to use Excel, Eureka was a breeze, and I'm sure the converse would apply.

Eureka 3

Unfortunately, Eureka 2 was slower than Excel and did lack some facilities, e.g. background calculation, print preview, UNDO button and the aforementioned RANK function. The lack of background calculation on a spreadsheet which can take two or three minutes to re-calculate is painful.

Along came Eureka 3 which provides background calculation and runs a little faster too, but still no UNDO button, RANK function or print preview. However, it would have been a big help when I moved the data across from Excel, whose .xls files it can read directly. C'est la vie! A partial solution to the lack of print preview lies in a PD utility, !RiScript, which displays PostScript printer files on screen.

One feature of Eureka 3 which I particularly like is its ability to print in background with !Printers 1.22. I only wish Impression could do the same!

The results for the first six places in a typical series, produced by Eureka, is shown opposite.

It's interesting to compare calculation times for a series of twenty races with 26 entries:

PipeDream 4 on an A420/1 with ARM3	726 s
Eureka 2 on an A420/1 with ARM3	210 s
Eureka 3 on an A420/1 with ARM3	183 s
Excel 4 on an 8Mb 25MHz 386 laptop	50 s
Excel 4 on an 16Mb 50MHz 486 PC	25 s
Excel 5 on a 32Mb 166MHz DEC Alpha	3 s

Although PipeDream appears relatively slow, I believe this is a result of the relative complexity of the custom functions. However, I would have expected Eureka on an ARM3-equipped A420 to have given Excel a closer run for its money on a modest 386 PC. I've never had the opportunity to try Schema, but if its macro language lives up to its reputation, it could easily prove a match for Eureka for this application. A

FIRST – Statistical Package

Brian Cowan

The name FIRST, often abbreviated as 1ST, is an acronym for the descriptive title of this product: Fully Interactive Regression STatistics. This started life as a program written for the old BBC computer, and it has been expanded and enhanced ever since. Even now the process is continuing, and FIRST is certainly the most comprehensive package of its type ever likely to be found for the RISC OS platform.

Different versions

As well as the full version of 1ST, there is a Junior version called 1STJr and an eLementary version, called 1STL. These all have the same front end and the same "feel", only differing in the range of facilities provided – and the price. Both 1STJr and 1STL will cope with up to 40 columns and 400 rows of data, while the capacity of the full 1ST is limited only by machine RAM.

The original versions of FIRST were a single-tasking programs. It has now been "desktop-ised" quite successfully, but its origins still show through. The windows and menus, etc have been designed to function well for their particular applications rather than for conformity with many of the RISC OS conventions. This can be very confusing to seasoned RISC OS users. Some menus appear as a set of "buttons", and often it is not obvious which menu option should be chosen or how to navigate the menu tree to arrive at the desired destination.

Data entry and import

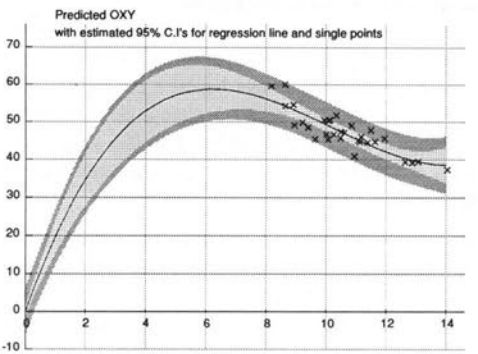
Data is conventionally entered into 1ST manually, in a spreadsheet form. A very good aspect of this is that, in contrast to usual spreadsheets, the data is typed directly into the selected cell, which is very intuitive. However, things become confusing when editing a set of data because when a cell is selected, its original entry is not visible. I would suggest the entry should be visible but greyed-out until actually modified.

Data is stored in 1ST's internal file format with its own filetype. This seems to be compressed, and incomprehensible when viewed with a conventional text editor. Such files can be loaded into 1ST by clicking on them or by dropping them on the 1ST icon or a 1ST window. It is also possible to import CSV files that have either the CSV or the text filetype. This is quite a powerful import facility, allowing the user choice over both the field and the row separator. This means that files produced by a variety of programs and data-logging equipment can be imported with ease.

Display

Having entered or imported data, now the fun starts. The first thing you might want to do is to plot the data to get a visual impression before regression or processing in some way. The numerical data will be displayed on the screen in a spreadsheet window. Opening a menu window on this data gives a selection of options from which to choose. "Display ..." is *not* what is needed. This controls what is displayed of the spreadsheet window. You have to click on "Menu Open", whereupon you are confronted with a set of options, the main menu, including one labelled "Plotting". Clicking on this opens quite a complicated window which controls the Graphs options. Here you can select the graph type required, the shape of the plot points, axes, labels, etc.

Data manipulation, regression, etc are all controlled from the main menu. Thus, returning to the main menu you can select a model for fitting the current data and then return to the plotting options for display. The graph below shows an example of 1ST's capabilities. The solid line is a cubic polynomial fitted to the data points and forced through the origin. This is probably quite un-physical, but it indicates what can be done with just a few clicks of the mouse. The shaded area shows the region of the 95% confidence interval.



The plotting options are certainly very powerful but I would like to see a larger selection of plotting points, as well as control over the displayed grid, bounding box, logarithmic axes, etc. There is the facility to add annotations to the graphs, although the placing of these is a bit hit-and-miss. However, since the graphs may be exported as drawfiles, such editing is best done at a later stage in Draw. If a utility like Chris Johnson's Text>Draw program is used then the possibilities for text and mathematical annotations are limitless.

Statistical functions

The major strength of 1ST is its truly enormous range of statistical procedures available including many with which I am not fully conversant and some which I have never even heard of!

It is possible to effect various transformations on the table of data using either the built-in functions or by building more complicated transformations as Basic-like expressions. Comprehensive linear and non-linear regression, including robust methods, are provided. There is analysis of variance, including Student's t test. One, two and three-way Anova modules are provided. Time series techniques are provided, and there is a module of non-parametric statistics. There are many, many other facilities available as well, including Chisquare analysis, cross tabulation and survival analysis.

In scientific curve fitting, I found the non-linear regression function a little clumsy to use. There is the choice of either built-in or user-defined functions, but in both cases you have to enter guesses for initial values and step increments of the parameters. Unfortunately, it is difficult to remember which variable is which unless you have jotted the formula down on paper first. So long as sensible values are entered, the regression works very nicely. The fit can be displayed as a graph and it is also possible to view or export a Report window giving full details of the fit.

On-line manual

The 1ST package comprises two main applications, the 1ST program and the manual. These install in the iconbar essentially independently. However, there is a clever linking from 1ST to the manual so that if the manual window is open then according to whatever 1ST option is being selected, the appropriate page of the manual is displayed. I think the on-line manual is a very good idea, although in its present form it appears simply as sheets of Help pages from the non-desktop version of 1ST. These appear as the front window, almost always obscuring the window one wishes to type into! Apart from this complaint, this form of the manual is very useful. It would be even better if it incorporated a search and/or index option.

Demo

Beginners will find the 1STDemo application most impressive. When this is run, there is a display of some twelve graphs produced by 1ST, demonstrating various of its features. I call them graphs, but really they are full colour pictures – works of art appropriate for any publication.

Conclusion

This is a most powerful product, particularly for statistical applications rather than other sorts of scientific data processing, plotting and presentation. It is rather non-intuitive in the arrangement of the menu structures – particularly if you are familiar

with the usual RISC OS conventions. There are still some rather strange bugs, but this is a very sophisticated product which is still under development. If you are involved in statistical analysis of data, you should have a serious look at this product. And nothing could be easier, as on application you can obtain a fully-functioning loan copy of 1ST to see how it measures up to your requirements.

Prices from Serious Statistical Software, are £205 for 1ST, £105 for 1STJr, £70 for 1STL. (VAT not applicable.) There are discounts for educational use and for multiple copies. A

Barcodes

Dave Floyd

Barcodes is an application by Kang Software that generates barcodes in Draw format. The package costs £85 inclusive direct from Kang Software and requires RISC OS 3 or above in order to run.

Background

There can surely be nobody nowadays who is unaware of what a barcode is. Everywhere you look, from newspapers and magazines to tins of soup, somewhere on the packaging appears the ubiquitous and seemingly meaningless pattern of vertical lines which can be read by electronic point of sale (EPOS) scanners at the checkout of the supermarket or chain store. That barcodes make life far easier for large stores is undeniable. Stock records can be automatically updated, there is no need to individually price each item on the shelf and mistakes made when entering prices at the till are eradicated, assuming that the information has been correctly entered into the system.

Stores that use an EPOS system claim that it is far more efficient than manual methods and it benefits the customer by allowing them to pass through the checkout more quickly and therefore face smaller queues than would otherwise be the case.

Implications

Like them or loathe them, barcodes are here to stay, and this provides a problem for the small business. While the cost of barcoding products for companies such as EMI or Harper Collins is minimal in view of the large production runs undertaken by these companies, the cost of barcoding becomes proportionately higher when you are dealing with small quantities. Although there is no legal requirement to include barcodes, if you want your product to be stocked by one or more of the major chains, you effectively have little choice as most will no longer accept non-barcoded product.

Any software that can make barcoding cheaper and more convenient is therefore very welcome. Registration with the appropriate authority still has to be done, and the manual for Barcodes helpfully provides the names and addresses where information can be obtained in this respect. Where the software helps Archimedes owners to cut costs, is by replacing the production process of barcodes, usually carried out by specialist printers, allowing the process to be achieved totally in-house.

The software

Barcode software has been available on the IBM PC and Apple Macintosh for some time now and, price-wise, the Barcodes package for the Archimedes compares very favourably with what is available on these platforms. Included with the review copy of the software was a copy of an advert for a comparable package on the IBM-PC which was priced at £149.99 +VAT. A cursory search through PCW revealed that this was, indeed, the cheapest available for the PC, so full marks have to be awarded in the price department to Kang Software.

The application is fully RISC OS compliant and installs onto the iconbar using a mere 80Kb of memory (or 96Kb on my A440 due to memory page size). Clicking <menu> over the icon reveals a menu which allows you to choose between EAN8, EAN13, ISSN, ISBN and BIC barcode formats. The software also allows you to save your choices as the default and activate the Acorn Help utility to provide on-line help for using the application.

An interesting idea, which I have not come across before, is an option which allows you to toggle between right-handed and left-handed menu struc-

tures. If you select left-handed, sub menus appear to the left of the menu rather than the right. Being right-handed myself, I cannot really judge the usefulness of such an option but I can see that it may well be more logical for left-handed people to work in this way. Full marks, therefore, for consideration, and perhaps other Archimedes software producers may wish to implement a similar function into their products or Acorn may wish to consider this for a future release of RISC OS.

Clicking with <select> or <adjust> on the Barcodes icon displays the main barcode generation window. A menu is available, once again allowing you to select between the five main types of barcode, but with extra options which allow you to adjust the size and bar thickness of the resulting barcode. As different printers and printer technologies can be used, trial and error (and perhaps a discussion with your Printer) will have to be used here to gain the optimum output from your system, but once you have discovered which configuration best suits you, it can also be saved with the options so that Barcodes will be loaded as you want it each time.

The creation of barcodes is literally a case of typing in the code or ISBN/ISSN number of your product into a writable icon within the window and saving your barcode as a drawfile. The barcode and checksum required are calculated instantaneously by the program, as is checking the validity of the ISBN or ISSN number you type in and rejecting incorrect entries. Add-on codes are catered for, and whether to have the ISBN number printed as part of the barcode is optional.

Conclusion

Whether or not you need barcoding software will be a far more clear cut decision than for many other pieces of software. £85 is cheap when compared to the competition on other machines, and will repay itself very quickly in allowing you to generate your own rather than paying somebody else to generate them for you. The software is well-designed and is so easy to use that anybody with even a smattering of computer literacy will have no problem whatsoever in using it. The left-handed menu option is inspired and, try as I might, I have failed to make the program hang up or do anything that it does not set out to do. The manual is short, yet full of information, and I cannot really think of anything else that could have been included in it. In short, I can find nothing at all to criticise about Barcodes, and if you have a need for this kind of software can wholeheartedly recommend its purchase. A

Ready for Publication

We have a lot of articles ready waiting for magazine space. I usually send a postcard to the contributor so that they know it has arrived safely but over the Christmas holidays, I edited several articles at home and can't remember which ones got acknowledged – so here is a list of those I've got as of 8/1/95.

ABC of Art	Christopher Jarman
Arctic	John Woodthorpe
Betsi	Richard Rymarz
Bitfolio More Cartoon	Dave Wilcox
Chess II	Tord Eriksson
ClassCardz for Wordz	Douglas Stalker
Clicker	Hutch Curry
Colour	Christopher Bell
Duck Loses His Quack	Stuart Bell
First Page	Richard Rymarz
Flyprint 2.50	Dave Wilcox
Font Designers Toolkit	Christopher Jarman
Font Directory	G. T. Swain
Goldilocks	Joe Gallagher
HP Laserjet 4	Charles Woodbridge
ImageFS	Dave Floyd
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Landbuild	Chris Whitworth
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Look! Hear!	Richard Rymarz
Lots more Fun & Games	Richard Rymarz
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Report Writer	Paul Cross
Shareholder Professional	Dave Wilcox
Softcrete	Andrew Rawnsley
Sound in Special Needs	Neville Dalton
Voyage of Discovery	Denise Bates
WimpGen 2	Paul Hobbs A

Club News

The ARM Club will be holding an Open Day at Merton Court School, Sidcup, Kent on Saturday 19th March 1995. Most of the stands will be run by members showing how they use their Acorn machines but there will also be a selection of commercial companies. The theme of the event will be geared towards education.

Everyone is welcome between 10 and 4 and light refreshments will be served throughout the day.

David Pilling's BubbleHelp

Jochen Konietzko

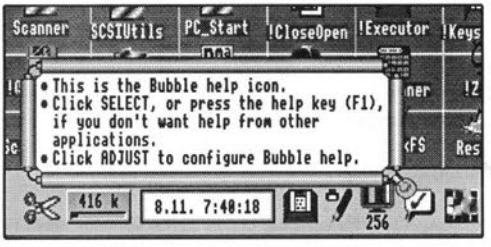
Acorn's !Help application with its window in a fixed spot is rather unpleasant to use but David Pilling's neat little utility, BubbleHelp, changes this by presenting help messages the Mac way. (Actually, it was written by Miles Sabine.)

The package

BubbleHelp (£5 from DP or £5 through Archive) comes on one disc in a plastic wrapper with a nine-page A5 manual which describes the program in considerable detail – even including hints for programmers who want to incorporate an "Info Button" into their own software, so that it can make use of BubbleHelp.

Installation

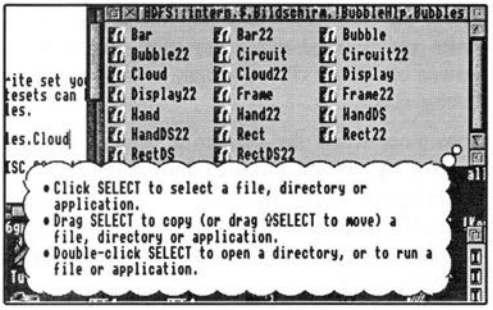
BubbleHelp can be run from a hard disc – double-clicking on its icon in a directory window installs it on the iconbar in the usual way.



The iconbar icon can be blank – program inactive – or ticked; in this case help messages appear at the position of the pointer whenever it does not move (the time delay before the message appears can be configured).

Configuration

BubbleHelp can be configured very extensively – there is an entry in the Run file to determine which



of the many bubble shapes provided on the disc will be chosen (the disc also contains instructions for designing your own Bubble Sprites), and an Impression-like Configuration window allows the setting of just about every aspect from the font to use, through the key combination for the "help key", to installation as a single user or a network version – every user connected to the net can have his or her own settings.

Any font on your system can be used to display the help messages.

Text choices
Text style
Use desktop font
Homerton.Bold
Click SELECT if you don't want Bubble help to use the desktop font to display help messages.
Bullet single line help messages
Close

Operation

After you have configured BubbleHelp to your taste, it will work automatically, intercepting all queries directed to Acorn's Help. In case a program looks for Help by its absolute path in Resources, there is a module which starts BubbleHelp instead.

All you will have to do is toggle the help action – and also the iconbar icon – on and off with the respective key combinations.

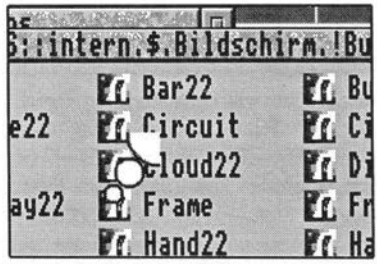
Problems with version 2.02, 21-Sep-94

When the help function is on, BubbleHelp sometimes gets confused with mouse clicks. For example, instead of a single click, you may have to perform a double-click.

Sometimes when the pointer is over a directory window (as ahown opposite), only a small part of the bubble appears. This may, however, be a problem to do with my Colour Card, and the effect only seems to appear in a few modes (my regular mode 110 works perfectly).

Requirements

BubbleHelp needs RISC OS from 3.10 onwards and, according to the manual, it will work on the Risc PC. (But see the PS opposite.)



Conclusion

This is a program which is actually quite unnecessary because, after all, Acorn's Help application does work... but I love it! At £5 from or Archive, it is highly recommended!

P.S. for German users

I have just switched to RISC OS 3.50D (German), and I am very much afraid that I can't use BubbleHelp any more; the reason is that the program simply doesn't use the help messages that would normally be displayed in Acorn's Help window, but comes equipped with a massive file full of help messages, many of them with parameters.

This leads to garbled "Help" messages. So, until translated versions appear, only users of English RISC OS owners should buy BubbleHelp.

Fact-File

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